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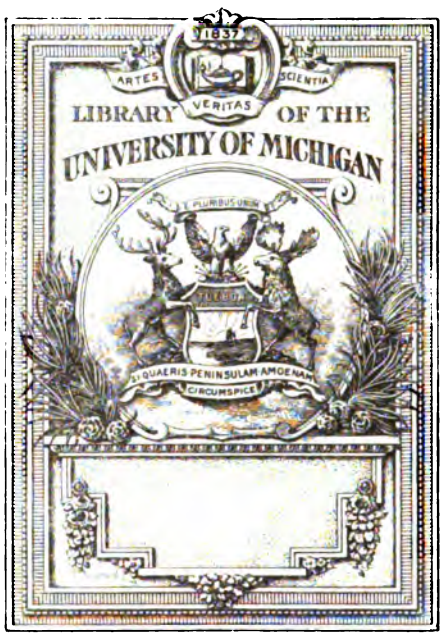
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A JOURNAL OF PHARMACY, CHEMISTRY, MATERIA MEDICA AND ALLIED SCIENCES.

VOL. VIII.

JANUARY TO DECEMBER INCLUSIVE, 1886.

CHICAGO:
G. P. ENGELHARD & CO.,
69 AND 71 DEARBORN STREET.
1886.

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THE WESTERN DRUGGIST.

VOL. VIII. No. 1. JANUARY 15, 1886. Subscription Price, $1.00 per annum. G. P. ENGELHARD & CO., Chicago, Ill.

A PECULIAR FERMENT.

THE TRANSFORMATION OF CELLULOSE TO GUM AND MUCILAGE.

BY JULIUS WIESNER.

It is known that many gums are derived from cellulose, as is gum Tragacanth, and also many mucilaginous substances as that of Quince seed. Some gums may be derived partly from cellulose and partly from starch, but this is still a question in controversy. In any event, cellulose furnishes the most important and largest quantity of material, if not all, necessary in the cellular construction of these two groups of carbohydrates.

As yet the exact process of this conversion or transformation of cellulose to gum, etc., in the plant cell has not been definitely determined. The observation of several properties of gum Arabic, led me to suspect the presence of a ferment, which in the plant causes the conversion of cellulose to gum and mucilage. How far this is true the following observations will testify.

All the gums of commerce, as gum Arabic and Senegal, and those of many of our stone fruit trees, produce in aqueous solution a blue coloration on the addition of tincture of Guaiac. Gum tragacanth is no exception to this rule, when left in contact with water sufficiently long to effect the formation of a soluble gum. This blue coloration of the guaiac resin is a property possessed by several ferments; many ferments produce strongly foaming solutions when shaken with water, a property possessed also by the gum solutions.

The addition of guaiac in the form of tincture to a solution of diastase causes an intensely blue coloration of the liquid, but a boiled solution of diastase, whereby it is rendered inert, will not be colored blue, when cold. By an addition of tincture of guaiac, a similar result is observed in the gum solutions when treated in the same way. These facts point to the existence of a substance in the gum rendered inert or decomposed at the boiling temperature; the fact of this change taking place at a temperature below boiling is additional evidence in favor of its containing a ferment. The presence of a ferment in gum could only be accounted for on the presumption of some previous fermentative action.

Ferments contain nitrogen and belong in the category of albuminous substances, the presence of which may be proven by the well-known sodium test. With Millon's and Raspails' tests the presence of a small quantity of albumen may be proven in these bodies. An experiment having in view peptonizing or emulsionizing it was fruitless; similarly, glucosides, as amygadalin, remain unaffected by it. So far we observe only the characteristics of a ferment capable of converting starch to soluble hydrocarbons.

If a half per cent. potato starch paste be mixed with a small quantity of a two to five per cent. solution of gum Arabic, or better, a freshly exuded apricot gum, the mixture will become clear after a few hours; the iodine reaction, ceasing to indicate the presence of granulose, now indicates dextrin by its characteristic action on erythrodextrin. Within the few hours necessary to the conversion of starch to dextrin a pasty fluid under fully the same circumstances will remain unaltered, and give the intensely blue color with iodine. The change of granulose to erythrodextrin under the influence of gum solutions will be indicated at ordinary temperatures, in from five to eight hours. Ordinarily, when subjected to a temperature between 35 and 40° C. after a lapse of four hours not a trace of granulose will be indicated in the mixture. If the gum solution be boiled about one hour before mixing with the paste, it will be found to have lost its diastatic effect. This fact removes the possibility of the starch-dissolving power of a gum solution being due to any acid property; after boiling, the solution is found to have retained its acid character and is even stronger in acid, relatively, owing to the loss of water.

Owing to these properties the gum ferment would properly be placed in the category of starch converters or diastatic ferments; it differs, however, from the best known member of this group, i. e., malt diastase, in the fact of converting starch to dextrin only, the glucoses being entirely absent. If the gum ferment be left in contact with starch paste at a temperature of 20 to 24° C. for about twelve days, this is observed; although dextrin be present a few hours after they are mixed and shortly thereafter, no more granulose be found in the mixture and no trace of the glucoses will become apparent during the intervening time. A warm starch paste under the same circumstances, even after a lapse of five or six days, will be rich in the glucoses, which is due, as shown by Wirtman, to the diastatic action of bacteria. It seems from this and other investigations on a mixture of dextrin, gum ferment and diastase, in which no sugar appeared after a short or longer period, that the gum ferment is capable of paralyzing the fermentative action of diastase.

The gum ferment is distinguished from the other ferments in thus controlling fermentative action, not only through its specific diastatic power, but also by various reactions, its presence and properties admitting of demonstration, both chemically and micro-chemically. If any gum, Arabic or that of stone fruit trees, for instance, be brought into contact with a solution of orcin and a 20 per cent. solution of hydrochloric acid, no particular change

*Abstract of a Paper read before the Kaiserl. Akademie Wissenschaften.

will occur in the mixture, but upon boiling, the mixture turns red, then violet, and finally produces a deep blue precipitate, soluble in alcohol with a deep violet color. This reaction is not due to the gum, as was formerly supposed, but to its accompanying ferment. On treating a section of gum-producing vegetable tissue with orcin and hydrochloric acid, all woody fiber is colored red in the cold, indicating the presence of vanillin in the ligneous fiber. Upon heating, everything that is convertible to gum is colored red, changing to violet and then blue, as also the contents of those cells whose membranes are convertible to gum. In a section containing cellular tissue, existing in the first stages of gum transformation, and which has just produced the first traces of gum, only the contents of the parenchyma cells will be colored intensely on heating, the walls not at all, or only black. The contents of the cell form the starting point and principal seat of the ferment; from this point it is absorbed by the cell membrane and causes the conversion of cellulose to gum. Diastase and pepsin cause similar reactions on heating with orcin and hydrochloric acid, the former a red coloration and a brown precipitate, the latter a red coloration and violet precipitate. With phloroglucin and hydrochloric acid characteristic reactions are obtained. The three ferments named give similar reactions when heated with pyrogallic acid and hydrochloric acid at the boiling point. Often gum ferment and diastase exist in adjoining tissue, and can be distinguished by the orcin reaction.

Take, for instance, barley; remove the covering of the endosperm and boil each part with orcin and hydrochloric acid; the different reactions will indicate the gum ferment of the covering, and the diastase of the endosperm.

I will here give a few directions for the application of orcin and hydrochloric acid to the best advantage in the micro-chemical detection of gum ferments. The section to be examined is placed on the object carrier and treated with a drop of a 4 per cent. orcin solution. On placing the cover glass care should be taken that enough remains under to admit of a tenth part of hydrochloric acid. This quantity of hydrochloric acid should be added and the object carrier heated on a wire net until the liquid begins to boil; after cooling, the object is brought under the microscope. When necessary the boiling may be continued a few seconds.

The action of the orcin test admits of the interpretation that the plant mucilages proceed directly from the cell walls, at least in the case of those derived from cellulose, a fact upon which Frank first gave accurate information. The thickness of mucilaginous cell walls of quince and flax, show the coloration more or less plainly, as is also the case of the cell contents. The best conditions for the development of the reactions are found in those cellular tissues just beginning to undergo the metamorphoses or just before.

The presence of gum ferment in wood fiber is more difficult to demonstrate and its success circumstantial. The presence of gum in the woody fiber of several trees was shown by Thomson and later by Max Singer, as a never-failing constituent in the formation of woody fiber. As it has been shown that orcins and hydrochloric acid color woody fiber in the cold an intense blue, in order to show the presence of ferment we have but to extract it, or at least separate it from vanillin. This can be done by subjecting the wood to the action of alcohol, then extracting with water and precipitating the aqueous solution with alcohol, by which gum and ferment can be distinguished from the former by their respective behavior toward the test.

These micro-chemical methods are sufficient to prove the wide distribution of gum in the cellular strncture of plants, and to show that the metamorphosis of the cellular structure to gum and mucilage is more common than was supposed up to the present time. In this metamorphosis a relatively large quantity of ferment is retained, and it remains unaltered in the finished gum for a long time, so that a sample which had been kept twenty years still showed the presence of gum ferment. This therefore furnishes an excellent means to detect the presence of gums, when isolated, or in the vegetable tissue. It seems that the ferment remaining in the cell wall is more readily decomposed or retained in proportionately smaller quantities as in the case of mucilage of quince, which responds but faintly to the orcin reaction, and only plainly under certain circumstances, here not explainable in detail.

We can distinguish the gum ferment in wound cells; in the bark of fruit trees we have such cells, wound cells in large quantity in the vicinity of gummy exudations. The isolation of the ferment has not as yet been accomplished.

Foaming liquids containing the ferment, colors guaiac emulsions blue; yields with orcin the gum ferment reaction; freshly prepared it converts granulose to dextrin and dissolves the starch cellulose, the glucoses not being produced; boiling destroys its fermentative power on starch and guaiac tincture.

(Communicated.)

THE MANUFACTURE OF PHOSPHORIC ACID FROM PHOSPHORUS.

BY ADOLPH SOMMER, UNIVERSITY OF CALIFORNIA, BERKELEY, CALIFORNIA.

The methods of manufacturing phosphoric acid may be divided into three groups, namely, those which commence:

(A) With a phosphate, commonly bone-ash.
(B) With glacial phosphoric acid.
(C) With phosphorus itself.

Having had so far no practical experience with any of those methods, wherein a phosphate is employed for the production of phosphoric acid, and having found the method B, in which the glacial phosphoric acid of commerce is employed, both expensive and otherwise unsatisfactory, I shall confine myself to describing those methods which employ phosphorus itself. These latter may be grouped into two classes, namely:

I. Those in which the P. is rapidly oxidized, and

II. Those in which the P. is subjected to a slow oxidation.

To effect the rapid oxidation of P. for the pro-

duction of phosphoric acid the following methods have been recommended:

(a) Oxidation of P. by burning in air.

(b) Oxidation of P. with strong nitric acid at a low temperature.

(c) Oxidation of P. with dilute nitric acid at an elevated temperature.

(d) Oxidation of P. with bromine and water.

(e) Oxidation of P. with iodine and water.

(f) Oxidation of P. with a little bromine and dilute nitric acid.

(g) Oxidation of P. with a little iodine and dilute nitric acid.

(h) Oxidation of P. with a little iodine, a little bromine, and dilute nitric acid.

Method (a) P. is burnt in air.

A striking and characteristic property of P. is the readiness with which it combines with oxygen. The products of the oxidation of P. by atmospheric air vary, however, with the conditions under which the oxidation takes place.

Under the influence of heat, and a constant excess of dry air the product is phosphoric oxide, P_2O_5, which, when dissolved in a proper quantity of boiling water, forms phosphoric acid, H_3PO_4. Under the influence of heat and a constant but small supply of dry air, phosphorous oxide, P_2O_3, results, which form with water phosphorous acid, H_3PO_3. To effect the combustion of P. continuously and economically, various forms of apparatus have been devised, and these are constructed of either glass, earthenware or metal. Glass vessels as receivers for the products of the combustion are employed only when the object is to obtain the purest possible products, and the P. is in this case generally placed in either a porcelain capsule or a crucible. But glass vessels are open to the objection that they are very liable to be fractured by the high heat which is produced, and are, on account of their necessarily large size, very expensive to replace. Earthenware and metallic vessels are employed when economy and the permanence of the apparatus are the main considerations, but the product, in this case, is liable to be contaminated with the material of which the vessel is composed.

In both cases only small pieces of P. can be introduced and burnt at a time.

During the combustion the greater part of the P. is volatilized and the phosphoric oxide deposited on the interior surface of the apparatus. On this account the apparatus must be capacious and closed on all sides. In order that the operation may be continuous, it is necessary to provide for a constant supply of fresh air. This is generally effected by leaving an opening at one end of the apparatus and connecting the other end with a device for withdrawing the spent air. For this purpose a closed barrel filled with water may be used, which is connected at its head with the combustion chamber, and provided with a faucet near the bottom. By opening the faucet and allowing the water to escape, the spent air will be drawn out of the combustion chamber, and fresh air enter the latter. Other manufacturers effect the same purpose by connecting the combustion chamber with a large filter pump or some other form of aspirator. On account of the volatility of the P., a large portion of the products of the combustion is carried into the exit tube and thereby lost, unless a series of receivers is provided through which the spent air may pass, and in which, previous to its withdrawal, it may deposit the suspended oxides. This last feature of this process as well as the danger of being burnt, to which the operator is subjected while cutting and drying the P. have been the principal objections to, and prevented the general introduction of this method in preparing aqueous phosphoric acid, while for the production of the phosphoric anhydride this method is the only one which can be employed with advantage.

Method (b). The P. is oxidized by the action of strong nitric acid. When ordinary phosphorus is brought into contact with strong nitric acid the reaction becomes so violent that it is almost uncontrollable and becomes, by the projection of particles of burning P. and portions of the acid, dangerous to the operator. This objection, however, does not apply to the amorphous (red) P., the employment of which, in conjunction with strong nitric acid, has been recommended for the production of phosphoric acid by Von Schroetter. The apparatus and manipulations are precisely the same as in the subsequent process (c), in which dilute nitric acid is employed, and where the former will be more fully described. The advantage which Von Schroetter's process has over the next one (c), consists in the greater density and higher degree of oxidation of the product, while its disadvantage is the greater cost of amorphous P.

Method (c). P. is oxidized by means of dilute nitric acid at an elevated temperature.

This method of producing phosphoric acid is the one most commonly employed by the manufacturing, as well as the retail pharmacist, and has received the sanction of all modern Pharmacopœias. This process, with the same apparatus and manipulations which the U. S. Pharmacopœia of 1880 recommends, I find already described in Ure's Dictionary of Chemistry of 1823 (it is probably also contained in the first edition of 1821), and it is too well known to require a long explanation. It consists in gradually warming in a retort, connected with a receiver, 200 parts of dilute nitric acid, sp. gr. 1.2 =34.7 per cent HNO_3, to which 16 parts of P. have been added, and occasionally returning the liquid, which accumulates in the receiver, to the retort. The resulting solution of phosphoric acid is, if it contain arsenic, treated with H_2S, filtered, evaporated, heated to a temperature of 190° C, until all nitric acid is expelled, and then diluted to the proper strength.

Several modifications of this process, differing from the latter either in the strength of the nitric acid or in the apparatus, are in use in the various establishments.

A former edition of the U. S. Pharmacopœia recommended to oxidize the P. in a porcelain capsule covered with a funnel.

R. V. Mattison carries on the oxidation in a large graphite crucible on the top of which a glass funnel is luted. (Am. Jour. Ph. 1877, 8.)

The complete removal of the last portions of nitric acid from the phosphoric acid is effected with difficulty. The Pharmacopœia aims to accomplish this result by keeping the concentrated phosphoric acid at a temperature approaching 190.° C., until all the nitric acid is expelled. Mr. Lloyd recommends the addition of specially purified alcohol, while Mr. Markoe adds a small quantity of pure oxalic acid and heats it to 300.° F. The em-

ployment of either of the two last mentioned substances greatly hastens the operation.

The products of the action of nitric acid on P. differ with the strength of the nitric acid as well as the temperature at which the two substances are brought into contact.

With strong nitric acid, as well as with weak nitric acid, at a high temperature, the product is phosphoric acid only, while a weak nitric acid at a low temperature invariably produces both phosphorous and phosphoric acids.

From this fact we may conclude that the reaction takes place in two stages, the first one of which consists in the oxidation of P. to phosphorous acid, while the second one consists in the oxidation of this acid to phosphoric acid. Assuming the distinctness of these two reactions, and considering further that the gases which are eliminated consist of all the oxides of nitrogen lower than the nitric anhydride (though they do not generally all appear at the same time) the whole reaction in its various phases, may be expressed by the following equations:

(1) $P_2+6HNO_3 = 2H_3PO_3+3N_2O_4.$
$H_3PO_3+2HNO_3 = H_3PO_4+N_2O_4+H_2O.$

(2) $2P_2+6HNO_3+3H_2O = 4H_3PO_3+3N_2O_3.$
$2H_3PO_3+2HNO_3 = 2H_3PO_4+N_2O_3+H_2O.$

(3) $3P_2+6HNO_3+6H_2O = 6H_3PO_3+3N_2O_2.$
$3H_3PO_3+2HNO_3 = 3H_3PO_4+N_2O_2+H_2O.$

(4) $4P_2+6HNO_3+9H_2O = 8H_3PO_3+3N_2O.$
$4H_3PO_3+2HNO_3 = 4H_3PO_4+N_2O+H_2O.$

(5) $5P_2+6HNO_3+12H_2O = 10H_3PO_3+3N_2.$
$5H_3PO_3+2HNO_3 = 5H_3PO_4+N_2+H_2O.$

Of these reactions, No. 3 is undoubtedly predominating, since the largest portion of the gas consists of dioxide N_2O_2.

Method (d). Phosphorus is oxidized by the action of bromine and water (recommended by Rud. Wagner, Deutsche Industrie-Zeitung, 1875, 403; also pointed out by Ballard, the discoverer of Br.)

P. and Br. form, when brought into contact with each other either phosphorus tribromide PBr_3, or phosphorus pentabromide PBr_5, according to the predominance of the P or Br. These bromides are decomposed by water, with the result that the tribromide yields phosphorous and hydrobromic acids, while the pentabromide yields phosphoric and hydrobromic acids. If the Br. be in excess the end result will be only phosphoric and hydrobromic acids, since any phosphorous acid which may have been formed, is rapidly oxidized by the Br. to phosphoric acid. The following equations will express the reactions:

$P_4+6Br_2=4PBr_3. \parallel PBr_3+3H_2O=H_3PO_3+3HBr.$
$P_4+10Br_2=4PBr_5. \parallel PBr_5+4H_2O=H_3PO_4+5HBr.$
$H_3PO_3+Br_2+H_2O = H_3PO_4+2HBr.$

From these equations it will be seen that there are formed five molecules of hydrobromic acid for every molecule of phosphoric acid, and that therefore this process is better suited for the production of bromhydric than of phosphoric acid. The dangers of this process, as well as the precautions to be observed in order to guard against accidents, have been fully described by me in a previous article on the manufacture of bromhydric acid. (See Pharmaceutical Record, 1884, 6; also Journal of the Soc. of Chem. Ind., 1884, 20.)

Method (e). Phosphorus is oxidized by the action of iodine and water.

P. combines with I. under the evolution of much heat to form phosphorus tri-iodide, PI_3, which is decomposed by water into phosphorus and hydriodic acids:

$P_4+6I_2 = 4PI_3. \parallel PI_3+3H_2O = H_3PO_3+3HI.$

The same objection which was raised against the last method applies also to this one. Pettenkofer who recommended this process in 1866, separates the two acids by distillation, oxidizes the phosphorous acid to phosphoric by means of nitric acid, and uses the hydriodic acid in the manufacture of iodides. (Dingler's Journal 181, 218, and Ann. der Chem. u. Phys. 138, 57.)

Method (f). Phosphorus is oxidized by means of dilute nitric acid and a small quantity of bromine.

When P. and a solution of Br. in dilute nitric acid are brought together a lively reaction ensues, the end products of which are principally phosphoric acid and nitrogen dioxide (N_2O_2). The compounds which are formed by Br. and P. and their decomposition by water have already been mentioned in method (d). But in the method before us the hydrobromic acid, formed by the decomposition of the bromides of P., is again converted by the action of nitric acid into Br., which is thereby enabled to attack the P. again, and thus serves as a carrier of O. between the water, nitric acid and P. Omiting the production of phosphorous acid, the following equations will illustrate this process:

$P_4+10Br_2+16H_2O = 4H_3PO_4+20HBr.$
$6HBr+2HNO_3 = 3Br_2+4H_2O+N_2O_2.$

There arrives, however, very soon a stage at which the nitric acid is so weak that it no longer decomposes the bromhydric acid in the cold. Heating the mixtures is out of the question, because the heat would dissipate the Br. On account of this defect the process has never found extensive application.

Method (g). Phosphorus is oxidized by means of dilute nitric acid and a small quantity of iodine.

The same function which is fulfilled by Br. in the last method (f) is in this method performed by I. It serves to transport the O. from the water and nitric acid to the P., being itself continually regenerated. For this function it is better adapted than Br., on account of its lesser volatility, and the fact that it is not appreciably held in solution by the liquid portion, but is on the contrary for the most part precipitated, and thereby brought precisely to the locality where it will meet the P., namely, the bottom of the vessel. But it has, on the other hand, a disadvantage as compared with Br., namely, the tendency of converting the ordinary P. into the amorphous variety, which is less acted upon than the former. This tendency is very slight at a low temperature (near the freezing point), but quite pronounced at a higher temperature (near 40° C.). On the other hand, a very low temperature interferes with the regeneration of the I. from the hydriodic acid by the action of nitric acid and is therefore to be avoided, particularly at the end of the reaction, when the nitric acid has become weak. The reaction goes on best if the cooling, which must be resorted to on account of the heat given off during the reaction, is so regulated that the temperature of the mixture is kept between

20-40.° C. This is easiest accomplished by putting the P. (to the amount of several pounds, if desirable) into jars of no more than one gallon capacity which stand in a trough of cold water. Water is poured on the P. until it is just covered, and a small quantity of I., between 1 and 4 per cent. of the weight of the P., is added. After the lapse of some hours a small quantity of nitric acid is poured into the jars. Fresh portions of this acid are added from time to time (about once or twice a day), so as to keep up an energetic (but not violent) reaction until all of the P. has been consumed. If, on account of too high a temperature, so much amorphous P. is produced that it forms a crust over the sticks and prevents them from being acted upon, it is necessary to either leave such P. for the next operation, when it can be subjected to the action of the chemicals in a less diluted form, or to warm the mixture to temperature of about 60° C., when the reaction will again become energetic. In the latter case the bubbles of escaping gas carry portions of molten P. to the top of the liquid, where, if the air is not excluded, the P. takes fire.

The principal chemical reactions which take place in this process are expressed by the following equations:

$$P_4+6I_2 = 4PI_3. \quad \| \quad PI_3+3H_2O = H_3PO_3+3HI.$$
$$6HI+2HNO_3 = 3I_2+4H_2O+N_2O_2.$$
$$3H_3PO_3+2HNO_3 = 3H_3PO_4+H_2O+N_2O_2.$$

Method (h). Phosphorus is oxidized by means of a dilute nitric acid in combination with a small quantity of bromine and iodine.

This process is commonly known by the name of "Markoe's Method," and was first described in the Am. Journ. Pharm. 1875.

12 parts of water, 2 parts of P. and $\frac{1}{18}$ part of I. are put into a stone jar, which stands in ice water and has the double capacity of the materials used. Then $\frac{1}{12}$ part of Br. is cautiously dropped in and the reaction allowed to go on. In about 24 hours, if all the P. has not been dissolved, heat may be applied until the P. disappears and the excess of I., Br. and nitric acid is driven off. The reactions which take place between the P., Br., I., water and nitric acid have already been given in methods f and g, and the same precautions which have been mentioned there, must be observed here. To insure a speedy oxidation of the P., without converting it into the amorphous variety, and a continuous regeneration of the I. and Br., requires that the temperature be neither too high nor too low. One objectionable feature of this process, namely, the addition of undiluted Br., which, unless performed very slowly (not more than one drop in a second) will invariably cause an explosion, has been overcome by the inventor by dissolving the Br. in dilute hydrobromic acid, and adding this solution to the mixture of P., water and I.

All the above-mentioned processes have one very objectionable feature in common, namely, the necessity of removing the arsenic which accompanies nearly all commercial P., by the treatment of the greatly diluted and warmed solution of phosphoric acid with hydrogen sulphide and subsequent double filtration. But on account of the inevitable excess of oxidizing agent in the last seven methods the treatment with H_2S must be preceded by the removal of the oxidizing agent, whether HNO_3, Br. or I., because, in the presence of either of these, the H_2S. would be decomposed before it could act on the arsenic compounds. For this reason the writer gives preference to those methods in which the P. is oxidized at a low temperature by moist air, since with an acid so produced the removal of the As. becomes an extremely simple operation.

CLASS II.

Phosphorus is slowly oxidized by moist, cool air.

That P., when opposed to a scant supply of moist and cool air, produces an acid liquid, was observed by the first chemists who experimented with P. But this property was not utilized to any extent until after the publication of Professor Wenzell's process in 1882. (Proceedings Am. Pharm. Ass., 1882, 556), also (Proc. Cal. Pharm. Soc., 1882, 25.)

In 1796, Pelletier published in Chem. Annalen von Dr. Lorenz von Crell," a process for obtaining this liquid, which was then and for sometime afterward regarded as a definite compound and called phosphatic acid, of which I give a somewhat modified quotation from Ure's Diction. of Chem., 1828, page 67:

"Phosphatic acid. This acid is obtained by the slow combination of cylinders of P. in the air. For which purpose it is necessary that the air be renewed to support the combustion; that it be humid, otherwise the dry coat of phosphatic acid would screen the P. from further action of the oxygen; and that the different cylinders of P. be insulated, to prevent the heat from becoming too high, which would melt and inflame them, so as to produce phosphoric acid. The acid, as it is formed, must be collected in a vessel so as to lose as little as possible. All these conditions may be thus fulfilled: We take a parcel of glass tubes, which are drawn out to a point at one end; we introduce into each a cylinder of P. a little shorter than the tube. We dispose of these tubes alongside of one another, to the amount of 30 or 40, in a glass funnel, the beak of which passes into a bottle placed on a plate covered with water. We then cover the bottle and its funnel with a large bell-glass, having a small hole in its top, and another in its side. A film of P. first evaporates, then combines with the oxygen and the water of the air, giving birth to phosphatic acid, which collects in small drops at the end of the glass tubes, and falls through the funnel into the bottle. A little phosphatic acid is also found on the sides of the bell-glass, and in the water of the plate."

From the experience which the writer has had with P. he believes to be justified in expressing grave doubts that ever anybody succeeded in placing P. into 40 glass tubes, arranging these properly in a funnel, and covering the whole with a bell-glass, without seeing the operation cut short by the ignition of the P. But with a small number of glass tubes this process is quite feasible, particularly if the bell-glass which is used as a cover, is as small as possible, and the temperature of the air very low.

That this phosphatic acid of Pelletier was really a mixture of phosphorous and phosphoric acids was proven by Thenard, Dulong and Severrier (Ann. Chem. and Phys. 67,278); but that the production of these acids was accompanied by the simultaneous formation of secondary products, namely Ozone, Dioxide of Hydrogen and Ammonium Nitrate, remained for more recent investiga-

tors to prove, among which Schoenbein and Leeds (Journ. Am. Chem. Soc. III, 6,) are the most prominent.

The whole reaction which takes place between P. water and cool air may be expressed by the following equation:

$2P_4+13O_2+18H_2O+2N_2 = 4H_3PO_4+4H_3PO_3+2H_2O_2+2NH_4NO_3+2O_3$.

But still it remains to be determined experimentally, how much the ozone and dioxide of hydrogen contribute toward the further oxidation of the phosphorous acid which in the acid liquid is not contained in the same proportion as the phosphoric acid, but on an average in the proportion of one molecule H_3PO_3 to four molecules H_3PO_4. Nor can we give at present a satisfactory explanation, why only small quantities of ammonium nitrate are to be found in the acid liquids. The employment of this phosphatic acid for the production of phosphoric acid was first recommended, so far as the writer knows, by Buchholz (Beitr. zur. Erweiterng. Der Chemie I, 63.) who directs the addition of nitric acid to the boiling phosphatic acid as long as nitric oxide gas evolved, and to remove the excess of nitric acid by evaporation.

With regard to the contamination of this acid with arsenic and its removal, I shall quote from Gmelin's Handbook of Chemistry Vol. II, London, 1849, and Heidelberg, 1843, page 121, the results obtained by two experimenters. "Phosphorus containing arsenic yields phosphatic acid contaminated with arsenious acid, which is immediately precipitated by sulphureted hydrogen, ——— or when heated alone till phosphoreted hydrogen is evolved, deposits the arsenic in black metallic laminæ." (A. Vogel Journ. pr. Chem. 13, 55.) And from pape 128 Ibidem: * * * * "if (during the evaporation) the phosphorous acid evolves phosphoreted gas, the arsenic is thereby reduced in the form of a black powder. The arsenic may therefore be removed by diluting and filtering the liquid from which it has separated." (Liebig.) This reaction, namely the reduction of arsenious acid by heated phosphorous acid, has therefore been observed at a much earlier date than Prof. Wenzell assumes in the description of his process, already mentioned above, where he refers to an observation of this reaction made by Mr. E. A. Schreck (Proceed. Cal. Pharm. Soc. 1880.)

Prof. Wenzell's Process, Modified. — In a shallow vessel made of glass, porcelain or earthenware (shallow earthenware troughs are now commonly employed) are placed longitudinally and resting on two crosspieces, strips of heavy plate glass of about $\frac{3}{4}$ inch in width. A space of about $\frac{1}{8}$ inch is left between the several pieces. A porous cover (Prof. Wenzell recommends a slab made of plaster of Paris) is provided to exactly fit and tightly close the vessel. When all is in readiness, distilled water is poured into the vessel until it stands about $\frac{3}{4}$ inch over the glass diaphragm. Then the sticks of P. are laid exactly over the slits that have been left in the diaphragm, the excess of water drawn off by means of a syphon or a syringe, until about $\frac{1}{8}$ inch of the sticks of P. is above the surface of the water, and the apparatus quickly covered with the porous slab. In from two to four days the P. will be found to have been eaten away to exactly the level of the liquid, which is now highly acid. In order to continue the oxidation a portion of this liquid must be drawn off, and a fresh portion of the P. exposed. This procedure of drawing off the acidulous liquid has to be performed about four times; and it requires considerable experience on the part of the operator to know how much of the liquid can be withdrawn with safety. For if he remove too little, the oxidation will be unnecessarily prolonged; if he removes too much, the loss of time is still greater, since then the P. will melt, fall through the diaphragm and will be found by the operator, at his next visit, on the bottom of the trough.

Prof. Wenzell has described in his paper "a contrivance which is to be fastened in one side" of the trough and serves the purpose of withdrawing the acid liquid automatically, but the writer has never seen it in operation, and cannot therefore express an opinion on the merits of the same.

When the P. has been entirely consumed, the acid liquid is poured into a porcelain evaporating dish and gradually heated to a temperature of at least 190° C. At a much lower temperature, below 150° C, the reduction of arsenious acid to metallic arsenic commences; but it is not completed until 190° C. has been reached. The proper point at which the heating may be discontinued can be readily recognized without a thermometer by the crackling noise made by bubbles of hydrogen phosphide, which at this temperature (190° C.) are given off abundantly, and explode on coming into contact with the atmospheric air. The production of hydrogen phosphide and reduction of arsenious acid by heated phosphorous acid is expressed in the following equation:

$$4H_3PO_3(+\text{heat})=3H_3PO_4+H_3P.$$
$$3H_3PO_3+2H_3AsO_3=3H_3PO_4+3H_2O+As_2.$$

After the acid has been allowed to cool, it is diluted with water, filtered and oxidized to phosphoric acid by means of nitric acid or bromine. The oxidation by means of nitric acid is easiest effected by evaporating the mixture of phosphorous and phosphoric acids, until a temperature of about 125° C. is reached, and then adding nitric acid in small portions. Any excess of nitric acid is readily removed by carefully pouring into the heated liquid, under constant agitation, a portion of the unoxidized mixture of phosphorous and phosphoric acids, which have been reserved for this purpose. When upon the addition of a small portion of this mixture no more effervescence takes place, the removal of the nitric acid may be considered completed. With regard to the employment of bromine for this purpose the reader is referred to a subsequent article entitled "The oxidation of phosphorous to phosphoric acid by means of bromine." This process, although more economical than the officinal one, also has some objectional features. One of these has already been mentioned, namely, the close attention that must, at stated intervals, be given to the oxidizing chamber. Another disadvantage is the extreme dilution of the resulting acid, because in the subsequent operation, in which the arsenic is to be removed, the liquid has to be concentrated first to a very high density, before the right temperature is attained. These considerations induced the writer to institute some experiments with the point in view of producing a highly concentrated acid with the least labor, material and apparatus.

NEW PROCESS.

Several forms of apparatus may be employed to fulfil the purpose stated above, three of which forms are described below.

I.

A common tin can, with removable cover, is made perfectly water-tight by resoldering the seams. Through the center of the cover a hole is punched just large enough for the stem of a long thermometer to pass through, and three or four more holes,

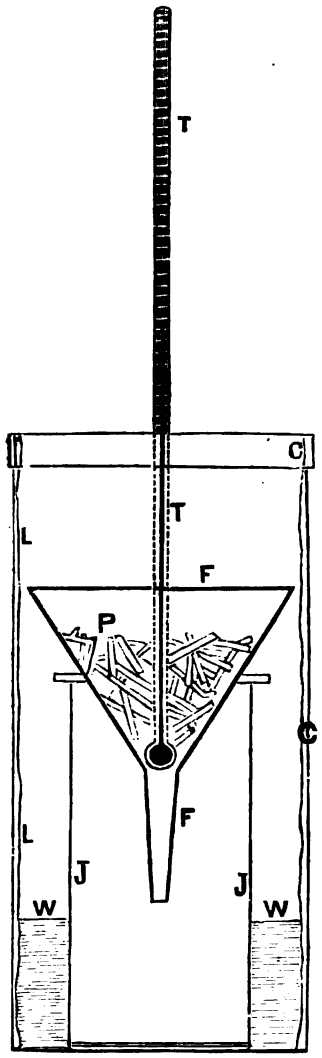


Fig. 1.

F : funnel filled with P.
T : thermometer.
J : glass jar.
W : water.
L : cloth lining.
C : tin can.

if not more than $\frac{1}{8}$ inch in diameter, are made near the circumference of the cover. All around the inside of the can there is suspended by little hooks, which are formed by making incisions into the upper edge of the can, a piece of cloth reaching from the top to the bottom of the can. In the can is placed a glass jar which must be able to hold at least $3\frac{1}{2}$ times as much water by weight as there is P. to be oxidized. A funnel, amply large enough to hold the P. and wider than the jar, is placed upon the latter, and the funnel tube loosely closed by a piece of glass. (Instead of a glass jar and funnel a bottle may be used which has been cut in two at about three-fourths of its height. The upper and smaller portion of the bottle is inverted and placed into the lower portion, and answers the purpose of holding the P. quite well.) Four or five times as much water as the weight of the P. is then poured into the space between the tin can and the glass jar, and the whole apparatus filled with carbonic acid gas. When, by the extinction of a burning taper, which is introduced into the upper portion of the can, it becomes evident that the atmospheric air has been entirely displaced, the sticks

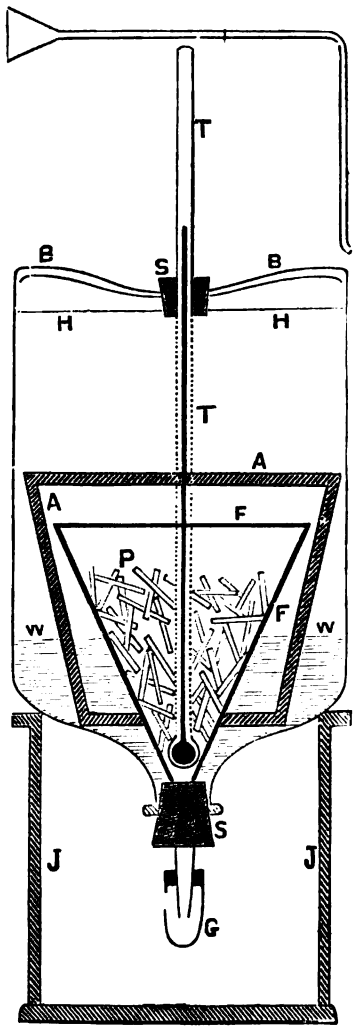


Fig. 2.

F : funnel filled with P.
T : thermometer.
J : glass jar.
W : water.
B : bottle (inverted.)
S : perforated stopper.
A : flower pot.
G : glass tube with opening on its side.
H : line of the cut.

of P. are laid in the funnel, the thermometer bulb buried between the sticks of P., the cover put on the can, and all openings, save one, closed by plugs. Through the open hole carbonic acid is passed into the apparatus for a short time, in order to remove the air which has entered the apparatus during the introduction of the P. When this is considered accomplished, the last hole is closed, the apparatus put in a cool place, which is not exposed to draught, and allowed to stand at rest for some time. When

it is observed that the temperature within remains constant, one hole is opened and the apparatus left undisturbed for at least 24 hours. If the temperature within this time has not approached 35° C., another hole may be opened, and the same precautions observed as before. The number of holes that can thus be opened, before the critical temperature (above 35° C.) is reached depends of course, upon the temperature of the atmosphere surrounding the apparatus. If, at any time, from an excessive supply of air, or from an unusually high temperature of the atmosphere, the temperature of the P. should rise above 35° C., there is great danger that it will, as the writer has found to his sorrow in several instances, rapidly reach the melting point of P., which is 45° C. When this occurs and the P. melts it will naturally run into the receiver (the glass jar), and there, being screened from the action of the air by a covering of acid liquid, congeal into a solid cake. It then becomes necessary to take the apparatus apart, to remove the P. from the receiver, and to recommence the whole operation. After, however, the apparatus has once been regulated, it requires no further attention until the P. is entirely oxidized, which can be known by the thermometer indicating the same temperature within the apparatus as prevails without.

It may seem desirable to have an explanation of some of the features adopted in this apparatus. The water in the apparatus was found necessary, because the ordinary atmospheric air does not contain sufficient moisture to dissolve the coating of oxides formed on the sticks of P. as rapidly as it is formed; but it was also found, that, unless by some means the water was brought to the space above the P., the air entering the apparatus would not become moist sufficiently fast to produce the effect desired. A piece of cloth, lining the inside, and capable of drawing the water from the bottom to top of the apparatus, suggested itself as the simplest means of effecting this purpose, and it does fulfill this function very satisfactorily. The reason for the adoption of several small holes instead of a single small opening, as a means of regulating the supply of air, is so evident that it needs no explanation. This style of apparatus is, however, not very durable, because of the slight, though perceptible, evaporation of the P., which causes a deposit of phosphoric acid to form on the inside of the tin can. This acid deposit slowly corrodes the tinned iron, and causes, after about three months of continuous operation, the formation of holes in the sides of the can. Through these holes an excessive amount of air is liable to enter the apparatus and cause the melting of the P.

II.

For the construction of a continuous and transparent oxidizing chamber a thick bottle, preferably one of white and very clear glass, is selected, and the bottom very carefully cut off. (This cutting or cracking is best done by means of specially prepared carbon pencils made of powdered charcoal, saltpeter and tragacanth.) A common unglazed flower pot, the largest that will go into the bottle, is inserted into the open bottle, so that the bottom of the flower pot is directly over and in contact with the neck of the bottle. A funnel, the conical part of which is at least one inch shorter than the flower-pot, is then inserted in such a way that the funnel tube passes through the bottom of the flower-pot and the neck of the bottle. Into the neck of the bottle the funnel tube is securely fastened by means of a perforated rubber stopper or parafined cork, which must be water tight. Over the protruding end of the funnel-tube is fastened, by means of a bit of rubber tubing, a piece of glass tube, closed at one end and having a hole on one side. This closed tube is pushed so far over the funnel-tube that the opening in its side is a little above the end of the funnel tube.

This portion of the apparatus is then placed, neck downward, over a large glass jar.

Through the center of the bottom, which was cut off the bottle, a hole of at least five-eighths of an inch in diameter is drilled. The bottom is then put into its original position on the bottle and fastened by glueing strips of paper over the joint. The hole which was drilled through the bottom is loosely closed by a parafined cork, through which passes a thermometer.

When the oxidizing chamber is thus completed, the cork is removed, and by means of a funnel, having a long bent tube, water poured into the space between the walls of the bottle and the flower pot, until its level is within a short distance from the upper edge of the funnel within the flower-pot. A few cubic-centimeters of water are also poured into the funnel until the water in the closed glass tube, which is attached to the end of the funnel tube, reaches a little over the end of the funnel tube.

Then a tube connected with a carbonic acid generator is inserted into the hole and carbonic acid gas passed into the oxidizing chamber. When the air within has been entirely displaced by the gas, sticks of P. are dropped through the hole into the funnel, until the latter is nearly filled. The thermometer and cork are then placed into position and the apparatus allowed to stand for a few hours. Then some notches are cut lengthwise into the cork and the apparatus again left undisturbed for about 24 hours. If at the end of this time the temperature of the P. is below 35° C., a little more ventilation may be given by enlarging the notches in the cork. Whenever it is seen that the P. is nearly consumed or the water evaporated, a fresh supply is added through the hole without taking the apparatus apart.

The flower-pot in this apparatus performs the same function as it fulfilled in the former (1), by the cloth lining, namely, that of absorbing the water and moistening the air. The closed glass tube which is attached to the funnel prevents the access of air from below to the P. in the oxidizing chamber.

The acid that is formed runs down the funnel into the closed glass tube and thence through the lateral opening into the glass jar, which serves as receiver.

III.

A still simpler form of a continuous oxidizing chamber I have constructed in the following manner: Through the bottom of a tin pan a hole of about one inch in diameter is cut, and a tube of tinned iron about half-inch long soldered into it. By means of a perforated cork a funnel is fastened into this hole so that the funnel tube passes through

the bottom, while the body of the funnel is inside of the tin pan. Into the end of the funnel tube is inserted and fastened by a bit of rubber tubing, a glass tube bent in a half circle. A common unglazed flower pot is inverted over the body of the funnel and a parafined cork with a thermometer inserted into the hole, which is at the bottom of the flower-pot. The whole apparatus is then placed over a glass jar and some water poured into the tin pan.

The tin pan may advantageously be displaced by a wooden water bucket, whereby the apparatus becomes almost indestructible.

After the pouring of a few drops of water into the funnel, whereby the bend of the glass tube is closed against a downward escape of gas, the apparatus is either filled with carbonic acid gas in

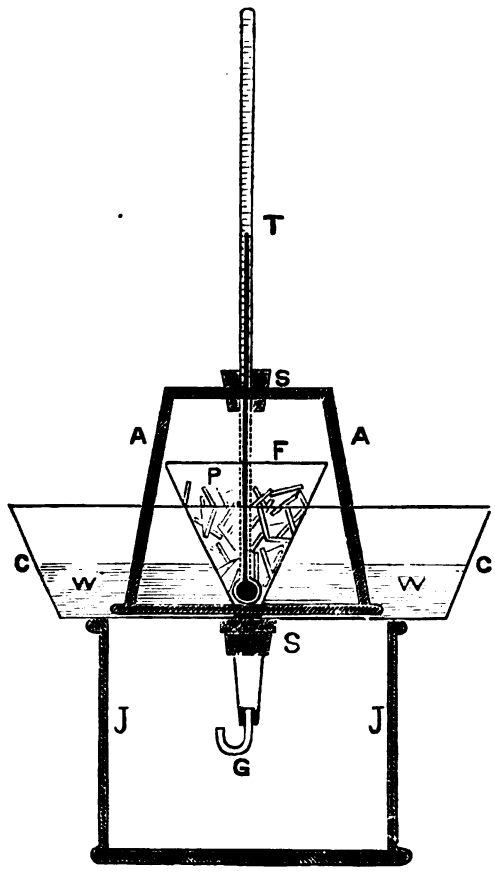


Fig. 3.

F : funnel filled with P.
T : thermometer.
J : glass jar.
W : water.
S : perforated stopper.
A : flower pot.
G : bent glasstube.
C : tin pan.

the manner described under (2), or the oxygen is simply removed therefrom by burning P. in the interior. For this latter purpose a small iron deflagrating spoon, which will pass through the hole in the flower-pot, is employed. A bit of P. is laid into the spoon, ignited and quickly inserted into the flower-pot. When the P. ceases to burn, the spoon is lifted out, and the hole in the pot immediately closed by means of a cork. The apparatus is left undisturbed for a short time, until the air within has cooled to the normal temperature. The introduction of burning P. is then once more repeated, and after cooling, the apparatus charged with P. through the hole in the flower-pot.

The further manipulations and precautions are the same as have been given in the description of style (II).

The rate at which the P. is oxidized by my method is a comparatively slow one. In an apparatus of style I., in which the temperature was kept on an average eleven degrees higher than that of the surrounding air, and the P., which was in the form of a solid cake of nearly five inches in diameter, exposed a surface of about 18 square inches, the P. was oxidized at the rate of about 10 grams a day. The difference between the inner and outer temperature does not seem to be affected to any extent by an increase or decrease of the prevailing temperature; for nearly 200 observations which were taken at temperatures of the atmosphere ranging from 10 to 22° C., gave, while all other conditions remained equal, an almost constant difference.

The acid which collects in the receivers has a specific gravity of 1.48 to 1.5, and is composed mainly of phosphorous and phosphoric acids in the proportion of 1 to 4, besides water. The exact composition differs with circumstances, and the determination of those circumstances may be the subject of some future paper.

The further treatment of this acid is in every respect the same as has already been described under Prof. Wenzell's process; but an acid prepared by my method has this great advantage over the one prepared by the former process, that it is already highly concentrated, and requires very little evaporation before the arsenious acid is reduced.

(Communicated.)

HOW TO MAKE TURPENTINE SOLUBLE IN LINIMENTS.

The dispensing pharmacist has to compound mixtures very often that are intended for liniments, composed of oil of turpentine (spts. turp.), ammonia water and various stimulating tinctures combined with volatile oils, but none of the fixed oils. The two first named, i. e., oil of turpentine and ammonia water, are his foes in making a clear mixture. First, because the tincture is only sparingly soluble in alcohol; second, because the water in the aqua ammonia precipitates the oils, and when the mixture is prepared and allowed to stand the turpentine separates and deposits in the bottom, and when shaken presents a milky appearance, objectionable from a pharmaceutical standpoint. This may be prevented when a fixed oil is not present. First, by adding from 1 dram to 2 drams of camphor to the fluid ounce of turpentine, which renders it soluble in all proportions of 95 per cent. alcohol or tinctures, and after which it will mix with tincture containing 5 per cent. of water.

Second, by making a spirit of ammonia from 1 part stronger ammonia water and two parts alcohol; which is simply substituting alcohol in the preparation of ammonia water. By careful manipulation in preparing this class of liniments a clear liquid will be the result. The camphor certainly cannot be an objection as it is based upon the turpentine radical and is generally a constituent of most liniments in the form of spirits. The alcohol is a valuable substitute for the water in the ammonia, so that the medicinal effect of the liniment is not changed.

WM. H. WEARN.

CHARLOTTE, N. C., Dec. 15.

(Communicated.)

IS IT PROGRESSIVE?

Is the establishment of a National Unofficinal Formulary a progressive step? At first thought one would very likely say yes. But is it so?

As long as we have the U. S. Pharmacopœia as our established authority, would it not be wisdom to give it a little more attention and think less of setting up a rival (?) authority in the form of an unofficinal formulary? Our Pharmacopœia is the result of the labors of the most able members of the pharmaceutical profession in all parts of the United States, and no formula is admitted to its pages that has not been thoroughly tried and its merit established.

Among the many who help build up the Pharmacopœia, E. R. Squibb contributes his share of information on nearly every class of formulæ. Abstracts, extracts, tinctures and chemicals, are alike benefited by his years of research and practical experience. Alonzo Robbins, in his little old drugstore on Vine street, Philadelphia, has spent the best years of his life to perfect the formulas for fluid extracts, and cheerfully gives what he knows to enrich the Pharmacopœia. Prof. J. P. Remington has added invaluable information on an almost endless number of points of vital interest. John M. Maisch, whose reputation is world-wide, gives his best labors toward furnishing distinctive tests and other points on Materia Medica, Botany and Chemistry. Why, then, is there dissatisfaction with the Pharmacopœia?

Mr. Hallberg says of it that it may be a "Pharmacopœia for the cities of New York, Boston, Brooklyn and Philadelphia, but certainly not for the West." Well, if it is an authority not acceptable to the pharmaceutical lights of the West, whose fault is it?

The West had its due representation in the Committee of Revision which met in 1880, and if these delegates did not look out for themselves they should not complain now. If the reader will look on the first pages of his Pharmacopœia he will see the names of the Committee of Revision, and will also observe that most of the Western delegates to the convention are marked as absentees. They staid away and left the work to others. Why these men shirked their work is not apparent; but since they did, it would look better if they would not find fault with the labors of the balance of the committee.

The Pharmacopœia should be to the pharmacist what the Bible is to the clergyman, or the dictionary to the student. It is established by law as our authority, and should be regarded as such. It is the foundation to our dispensatories, and they are revised every ten years to keep up with the improvements. It is the enemy of all quack nostrums and patent medicines, and has no affiliation with A. B. & Co., B. C. & Co., or other "Physician's Supply" houses. It teaches every man to make his own fluid extracts and other preparations, and thus save money and dispense a superior article. It furnishes a simple elixir which, as a base for all compound elixirs, is unexcelled. It gives you a Syrup of the Hypophosphites with Iron which is as good as Fellows', and does not cost half as much, besides being easily made.

The New York and Brooklyn Formulary is a good book, but those who object to the Pharmacopœia so strongly because it is an Eastern production are not getting a Western book by any means when they adopt this formulary, even if the St. Louis College does consider it equal to the Pharmacopœia.

Would it not be better in the end if all who have good formulæ they wish published would save them until the next revision of the Pharmacopœia, in 1890, and then take the proper steps to have them incorporated in the new edition? In this way the new formulæ will be established by law, and the Pharmacopœia bettered by the addition.

If all would adopt this course none would have reason to complain of our Pharmacopœia being a sectional book, but it would be an authority for all American druggists everywhere.

J. A. P.

Roseville, Ill., January 1, 1886.

(Communicated.)

ADULTERATION OF POWDERED SLIPPERY ELM.

Not long ago a sample of what purported to be powdered slippery elm was handed to me for examination. It was in an ounce package and bore the name of a reputable manufacturing firm, and was labeled "Superfine Flour of Slippery Elm." A careful microscopical examination proved that while some elm bark was present, the greater portion of the bulk of the powder was wheat flour. This was evident by the abundance and character of the starch grains, and by the presence of the hulls of the grain.

At first thought it would seem as if there could be little temptation to adulterate so cheap a substance as elm bark. The gain to be realized in that way would hardly compensate, it would seem, for the risk of exposure that would be incurred in perpetrating the fraud, as it is of a character that can be very easily detected by means of the microscope. That even reputable firms that have much to lose by exposure are willing to take the risks shows the need of some system of inspection of drugs that will prevent the public from being imposed upon. No great harm, perhaps, is likely to result to life or health by using slippery elm that has been mixed with wheat flour, but it is none the less morally wrong, and tends directly to the destruction of confidence between man and man, that is the only sure basis on which trade can rest. Every man has the right to demand that when he buys a thing he shall get his money's worth and get the thing he calls for, and every man who is convicted of selling a thing for what it is not should be punished. In our opinion one of the great needs of the time is a rigid system of inspection of all articles sold for food or medicine, and the compelling of merchants and manufacturers to label their goods correctly. There is no harm in selling butterine if it be sold as such, but there is a gross wrong in selling it as butter. If slippery elm mixed with wheat flour will make as

good a poultice as the slippery elm without the flour there is no harm in selling the mixture, but let it be sold as a mixture and the proportion of the ingredients stated in plain letters on the label.

It may, however, be a long time before such abuses are corrected by the legislature. The only remedy at present is the adoption by pharmacists of better methods of examining drugs, and more intelligence in selecting them. The carelessness, if not ignorance, of many pharmacists is largely responsible for the perpetuation of abuses of this kind. They judge of the purity and value of drugs by "looks" instead of intelligently applying microscopical or chemical tests, even in cases where these tests can be applied with facility and certainty. It is probably a fact that adulterated flour of slippery elm sells better than the pure, because it looks better. The pure bark is not readily pulverized owing to the tough bast fibers it contains, and the powder never looks so well, hence the ignorant druggist rejects it in favor of the adulterated article. It is the same with many other drugs. A complete remedy for this class of abuses will not be found until the profession comes to be composed more largely of educated men who understand the science of their business, and conduct it according to scientific principles. Every dispensing drugstore should have its set of reagents and test tubes, and a good compound microscope, and there should be at least one clerk in the store who knows how to use them intelligently.

M. A. T.

CHICAGO, Jan. 11, 1886.

CULTIVATING THE CHOLERA BACILLUS.

At the December meeting of the Illinois State Microscopical Society Dr. Lester Curtis, who for the last year has been pursuing studies in European laboratories, gave an account of Koch's method of cultivating the cholera bacillus. Koch adopted, he said, what is called the "solid culture method," in distinction from the "fluid culture method" of M. Pasteur and his school. One great advantage it possessed over the latter method was that the culture could more easily be kept pure. With Pasteur's method, for instance, in the study of the bacteria from sputum it was almost impossible to keep the culture fluid free from contamination by bacteria from the mouth, while by the solid culture method it is a comparatively easy matter to isolate the pathogenic organism and trace out its life history. The appliances necessary were simple in their character, consisting of a few small glass test-tubes, a bell glass, a few glass slips about 3 by 6 inches long, a small glass table on which to rest the plates during the process of the culture, a few pieces of platinum wire having one end fused into glass rods, which serve for handles.

A solution of peptonized beef is prepared by adding a little distilled water to a quantity of finely-chopped beef, macerating for a little time, expressing and filtering, then adding peptone, salt, sodium carbonate and gelatin, the latter in sufficient quantity to make it form when poured on a glass surface, a moderately tenacious film, and the sodium carbonate in just sufficient quantity to render the mixture very slightly alkaline. The solution is then boiled till the albumen is precipitated, then filtered. In case the mixture is not clear when cold, it is again boiled and filtered to get rid of the last traces of albumen. The product thus obtained is when warm, a clear, yellowish red liquid, and on cooling forms a somewhat firm jelly.

The test-tubes used for the cultures are of course sterilized. This is accomplished as follows: They are first plugged with cotton wool and exposed to the flame of a Bunsen burner until the cotton begins to turn brownish. The plug of cotton wool is now removed, and they are filled about three-quarters full of the peptonized gelatin, again plugged with the cotton wool and boiled repeatedly at intervals of from twelve to twenty-four hours to make certain that all bacteria and all germs of them are destroyed.

The cultivating fluid is now ready to be impregnated with the germs to be studied. This is accomplished by dipping the end of one of the platinum wires, first sterilized by passing it through the flame of a Bunsen burner, into the contaminated fluid, and, after carefully removing the cotton wool, inserting it into the peptonized gelatin in the tube. The liquid in the tube is now agitated for a considerable time to insure the equal distribution of the germs, then five drops from the tube are taken and placed in a second tube. After this has been thoroughly agitated, five drops from it are transferred to a third tube, and the contents thoroughly agitated. In this way solutions of various strengths are obtained. Portions from each are now poured on the glass plates, which have previously been carefully sterilized by washing in a solution of corrosive sublimate. The glass tables on which the plates rest are also sterilized in the same way, as are also the bell glasses. The film of gelatin is allowed to harden on the plates, and these are placed on the little glass tables, which in turn stand in a glass dish, the bottom of which is covered with blotting-paper moistened with a solution of corrosive sublimate. The whole is now protected by the bell glass. As the microbes grow the culture gelatin becomes disorganized, and in the case of the comma bacillus each colony will be found, when examined under the microscope, to be located at the bottom of a conical depression. The appearance of this conical depression produced by the cholera bacillus is so characteristic that this microbe is by means of it readily distinguished from other comma bacilli that have been confounded with it. It is another characteristic of the cholera bacillus that it can only be cultivated in a solution *just verging on the alkaline.*

The discussion which followed brought out some interesting facts and suggested interesting lines of research. Dr. Curtis expressed the opinion that a man in vigorous health and with a good digestion might take these bacteria into his system with impunity, but anything which impaired digestion, such as drinking habits, or other excesses having the same tendency, and even fear, which he said was capable of arresting the digestive process, would greatly increase the danger from them.

It was suggested that the product of the growth of bacteria might be the cause of the disease rather than the bacteria themselves. These products had been but little studied, and there could be but little doubt that in this direction lay a large and important field of research.

(Communicated.)

APPARATUS FOR DISTILLATION AND EXTRACTION.

BY PROF. CHAS. B. GIBSON, CHICAGO.

The accompanying sketches represent improved forms of apparatus for distillation and extraction purposes. Fig. 1 represents an improved Liebig condenser which I have used more or less in my laboratory for the past two years; *a* is a glass tube about 2¾ inches in diameter and 20 to 24 inches long; *b* is a glass tube 1¾ inches in diameter and closed at the upper end as represented. The tube *b*. is fitted inside the larger tube *a*, by a thick heavy cork soaked in melted paraffine. The smaller bent tubes *e* and *f* serve respectively as inlet and outlet for water used as a cooler for tube *b*. The tube *c* which is fitted tightly within *b* by a suitable perforated cork, serves as an inlet for the vapors of the liquid in *g*. Tube *c* should project about 3 inches beyond the cork, to prevent the condensed vapors from running back into the distilling flask *g*. The distillate is delivered into a receiver by the tube *d*, which passes just above the perforated cork into b.

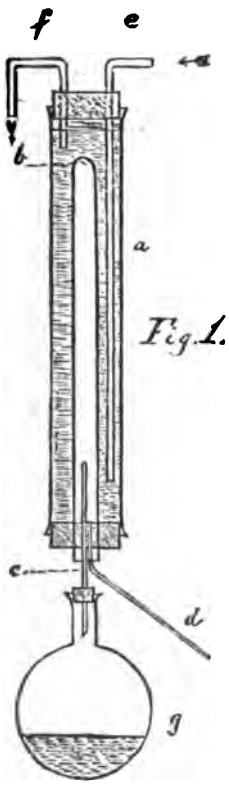


Fig. 1.

When properly constructed this condenser is very effective. If the tube *c* is not too much exposed below the condenser and outside the flask *g*, no great amount of the distillate will condense and run back. The vapors condensing in *b* run down the walls of the tube and are completely delivered by the tube *d*.

This condenser is quite as effective as the ordinary form, besides saving much valuable space, which can be used to better advantage. It is admirably adapted to the distillation of nearly all liquids of low boiling points, which do not form explosive vapors to come in contact with the flame under flask *g*. Highly volatile liquids like the ethers may be safely distilled, by screening the receiver from the heat of the flame, and by connecting with it a safety tube delivering the escaping vapors out of a window or into an adjoining room.

Fig. 2 represents a "safety valve" attachment for an extraction apparatus. A represents a Tollen's extractor. The substance to be "extracted" properly prepared is loosely packed in the inner tube, the lower end of which is closed by tying over the lip two or three thicknesses of fine Swedish filter paper, as represented in the sketch. The extractor with the necessary appliances and flask of solvent liquid is attached to the upright Liebig B as shown.

The small bent tube *a* connected with the upper part of the Liebig is introduced into the flask *b*, partly filled with mercury, to immerse it in the vessel of cold water. A shorter bent tube connects *b* with *c*, and dips nearly to the bottom of this flask; *c* is partly filled with mercury and some suitable oil. The mercury acts as a perfect valve against any rapid condensation that might take place in the extractor, thereby preventing the drawing back of oil from *c* into *b*.

Any vapors from the extractor—for example, ether or benzin, in case either one be employed—that may escape condensation in the Liebig or *b* will be absorbed by the oil on passing from *b* into *c*.

This apparatus is perfectly safe. I have run it continuously for 24 hours, much of the time my attention having been devoted to other work. I have

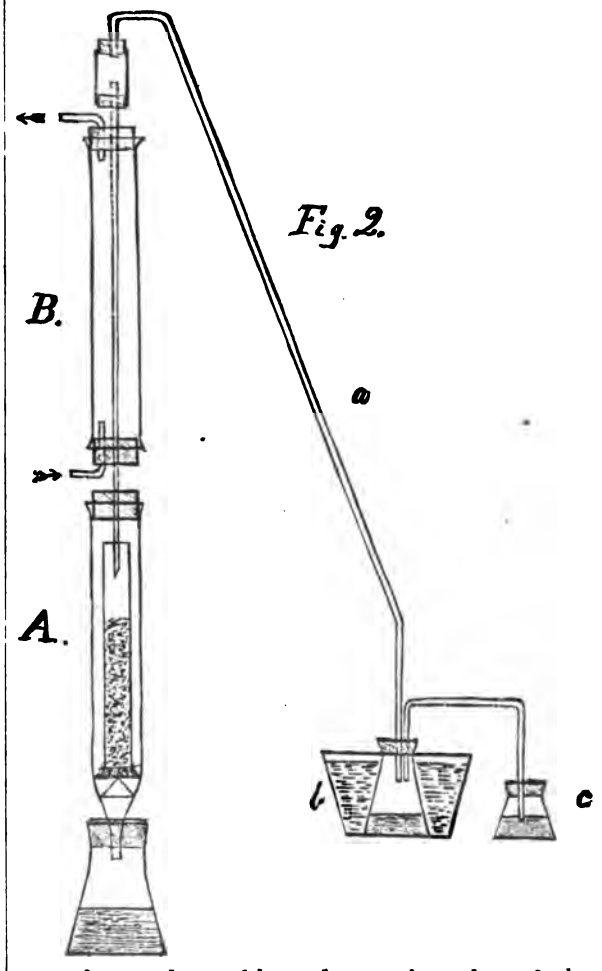


Fig. 2.

scarcely ever been able to detect the odor of the highly volatile solvents usually employed, escaping from *c*.

I have no fear of accidents from explosions or otherwise, when these precautions are taken.

CHICAGO, Jan. 6, 1886.

Iodized tannic acid is a new reagent described by Mr. Schweissinger in the Chemical News. Equal volumes of alcoholic solutions of iodine and tannic acid when mixed produce a transient rose coloration in dilute solutions of any salt having an alkaline reaction. It is so powerful that with carbonate of potash the color is perceptible in a solution which contains only one part of the alkali in 1,000,000 parts of liquid. Sulphates and chlorides do not disturb this reaction when they are only present in small quantities, but in strong solutions the rose color is masked by a brown coloration.

SOME PHARMACOPOEIAL FORMULAS.

Rother, in the Druggists' Circular, recommends some improvements in the formulas for the following Galenical preparations under the suggestive title, "Some Alkaline Extractions."

COMPOUND SYRUP SARSAPARILLA.

Of this compound he says that the licorice root and pale rose leaves should have been omitted and some more "adaptable" agent substituted for senna. He also considers the change from the volatile oils to their respective drugs very indiscreet in view of the increased bulk effected thereby.

The degree of fineness of the drugs directed in the U. S. P. should correspond, he states, to the grades obtainable in the markets, namely, very fine and commercially coarse, instead of the nearly uniform numbers in the officinal formula.

This, we may remark, is in contradiction not only to the purpose of the Pharmacopœia and to true pharmaceutical teaching, but also in direct affiliation with slip-shod pharmacy, against which Mr. Rother has always been an outspoken enemy. Is convenience, then, so dear to him, that he will recommend the use of crude drugs for extraction in whatever degree of fineness they are obtainable in the market, or perhaps base his criticism upon pharmacopœial processes without regard to its specification of fineness of the powders? Must the drug mills and the mortars follow the pill-machines and give way to the microscopes in the pharmaceutical boudoir? Or is the U. S. P. to pander to the popular taste for ready made conveniences even in the production of simple Galenical compounds?

After advising the use of the crude drugs in the form they appear on the market he recommends that the extraction be effected in such a manner as to avoid concentration by evaporation. This is best accomplished by the use of a weak alcoholic and slightly alkaline menstruum. The drugs after maceration are extracted by percolation with a mixture of 1 part of alcohol to 7 of water, containing 2 fl. ounces ammonia water to 4 pints. The oils which are used (we believe to advantage) are mixed with the guaiac previous to the extraction, the sugar is simply dissolved in the percolate, and the syrup is finished.

FLUID EXTRACT OF IPECAC.

In the extraction of drugs by percolation Mr. Rother observes, that the tendency to irregular descent of the menstrua is great. The solvent, at first homogeneous in its descent, gradually forms special currents or channels and extraction is incomplete, but when these currents are united; as by the interposition of a disc in the column, the descending currents are rearranged, and extraction is more uniform. Applying this principle to the extraction of ipecac Mr. Rother succeeded in exhausting 16 troy ounces of the drug by placing alternate discs of filter paper in the column, when 16 fluid ounces of percolate had been obtained. The following process is conducted on this principle:

Ipecac, "pulverized," 16 troy ounces,
Magnesium oxide, 1 " ounce,
Alcohol sufficient to make one pint.

Mix the magnesia with two fluid ounces of alcohol, add gradually the ipecac, mix by means of a pestle. Pack one-half of the moistened powder into a cylindrical percolator, and on the surface of the column place a double disc of filter paper exactly covering it. Upon this pack the remaining powder more firmly than the first, and pour on alcohol until the liquid has slowly reached the base of the lower column. After a maceration of 12 hours pour on more alcohol until one pint of percolate has slowly passed.

SYRUP OF YERBA SANTA.

The use of ammonia not having proved satisfactory the employment of magnesium oxide was found to give the best results.

In the following formula two troy ounces of leaves are used for one pint of syrup:

Yerba santa, "ground," 4 troy ounces,
Magnesium oxide, 6 drams,
Sugar, granulated, 24 ounces.
Alcohol, of each sufficient water to make two pints.

Mix one measure of alcohol and seven measures of water, and to two fluid ounces of this liquid add the yerba santa and 4 drams of magnesia previously mixed. Pack this mixture firmly into a cylindrical percolator, and pour on the alcoholic dilution until the liquid has descended to the base of the column. After 12 hours' maceration pour on more of the menstruum, until one pint of percolate has slowly passed. Mix this with the remaining magnesia well and expose to the air for twelve hours. Now filter and in the filtrate dissolve the sugar by agitation, or by means of a gentle heat, and strain through a fine sieve.

Having found that yerba santa possessed an acid which seemed to work dissolving upon the cinchona alkaloids in the presence of ammonia and in stronger alcoholic menstrua, he suggests that eriodictyon replace serpentaria in the compound tincture of cinchona. Cinchona in the very finest powder is very difficult to extract with alcohol of whatever strength, glycerin also being purposeless, but the presence of eriodictyon not only favored the extraction, but made the same complete with the cinchona in very coarse powder. From the preceding considerations the following formula for tincture of cinchona is deduced:

Cinchona bark.....6 troy ounces.
Eriodictyon leaves, 1½ " ounce.
Diluted alcohol sufficient to make two pints.

Powder the cinchona bark and pass it all through a No. 24 sieve. Powder the eriodictyon leaves, and having separated the finer portion by means of a No. 20 sieve, mix it with the powdered cinchona. Gradually add this mixture to two fluid ounces of diluted alcohol and pack it firmly into a cylindrical percolator. Moisten the coarser portion of the powdered leaves with one fluid ounce of diluted alcohol and pack it also into the percolator. Now pour on diluted alcohol, and when this has slowly reached the base of the column, check the percolation by closing the exit. Resume the percolation at the end of 24 hours and pour on diluted alcohol as before, until two pints of percolate have slowly passed.

TINCTURES OF CAPSICUM AND CANTHARIDES.

For both of these tinctures, menstrua rendered alkaline by potassic hydrate and of weaker alco-

holic strength, are recommended and the drugs are to be used whole and extracted by maceration. In tincture of cantharides the earthy soap to which the cloudiness is due is removed by filtration through magnesium oxide.

FOR LINIMENT OF AMMONIA.

A mixture of cotton seed oil and paraffine oil, in equal portions, is mixed with an equal volume of aqua ammonia 4F. (containing 18 per cent).

Paraffine oil, or petrolatum oil as it is called by the writer, is destined to become very useful, and when better known will take the place of both petrolatum and glycerin.

PATENT MEDICINES.

BY C. S. HALLBERG.

I

It is with some diffidence that the writer takes up the subject of proprietary or the so-called patent medicines, but if we are to judge the extent of the agitation by the literature recently so voluminous, it is believed that a systematic investigation is desirable. Such investigation, however, must be radical, starting at the foundation, gradually diagnosing the disease, discussing the conditions or attendant circumstances, and then—and not until then—after a fair, systematic and thorough exposition of the subject in all its phases, seek a remedy, or at least attempt such suggestions with a view to its ultimate abolition as the real circumstances may warrant.

We shall not deem it necessary to allude to the so-called evil of cutting in prices or other attendant complications in their commercial relations, but attempt logically to discuss the following primary divisions of the subject:

1. Can the therapeutic effect of any drug, or compounds of drugs, be regarded as an invention, and as such be entitled to proprietary rights? If not, then what should constitute the basis for proprietary rights?

2. To what cause or causes may the existence of the proprietary medicines be attributed, and which class, viz., pharmacists, physicians, or the public, is most largely responsible for their growth?

3. To ascertain, if possible, how far these respective divisions of society are benefited by the system of proprietary rights in medicine, and also whether or not any or all of these factors desire its abolition.

4. How this abolition may be best attained.

IS MEDICINE PROPERTY?

In connection with discussing "the burning question" of proprietary medicines and its attendant evils, it is well to consider whether they be of a character to represent property, or whether they represent merely "riparian" rights.

All so-called proprietary medicines for internal use are mixtures or compounds of well-known drugs and chemicals, and their claims as property must therefore be based upon:

1. The invention of some new process of manufacture, or

2. As exercising some specific action upon the human body.

3. Both of these qualifications are usually claimed and often with the additional pretension that the constituents have just been discovered.

The invention of some process of manufacture is, according to the laws of society, made property for a certain period to enable the inventor to reap some reward for the time and labor spent in perfecting his plans. We shall not stop to discuss the wisdom of this, although there are good grounds for entertaining the nihilistic views recently expressed in opposition to a system whereby illiterate persons, by simply hitting upon some simple device, such as a stove-lifter, or barbed wire for fencing purposes, are enabled to accumulate millions from the hard-earned wages of the mechanic or the frugal farmer. But the system is one to which we owe in a great degree our civilization, the improvements in our mechanical industries, and for its advancement there must be adequate reward, and that reward is property in invention or proprietary rights. In so far, therefore, as invention applies to *mechanical* methods, or processes in pharmacy, it is equally entitled to being proprietary with other classes of industries. In the branch of chemistry, more in fact than any other department of human labor, by vesting property in inventions the highest scientific spirit is cultivated, the highest aim of society realized, and the results of the greatest benefit to humanity. Here an invention is not stumbled upon, but is the result of patient, painstaking, persevering investigations. It is this stimulus which now affords the valuable glycerin at one-tenth its former price, which gave us an economic substitute for salicylic acid, and in the near future, the artificial production of quinine and other costly chemicals.

It is gold that men seek, but there are legitimate ways of obtaining it, and also illegitimate ways. The former we have described; the latter belongs under the second proposition, viz., claiming property in a drug or a compound because it exercises some specific action upon the human body.

This we deny without fear of contradiction. No sane mind can have the audacity to set up a preemption claim upon a quality which is, on a par with himself, given to all mankind alike by a superior power, perhaps forming the elements which sustain his being. The question then resolves itself into, Upon what ground is proprietary right demanded?

Is it upon the pharmaceutical skill displayed in preparing the compound? Granted that the skill has been displayed, there can be no property right in that, because there are pharmacopœial preparations which require more skill than any of the proprietary compounds. Is it in the formula? No. The same combination in ninety-nine cases out of a hundred has been used long before the alleged discovery, and in many instances the *same* formula does for any number of different preparations, each being a specific in a special direction, and originated from entirely different Indian tribes several thousand miles apart.

COCAINE when dispensed in ointments and suppositories should first be dissolved in oleic acid, the other substance being added to it afterward by small quantities at the time. Treated in this manner the cocaine will assimilate itself with the greasy substance, and a homogeneous preparation will be obtained.

DISINFECTANTS.

The committee on disinfectants of the Public Health Association at its recent meeting in Washington, D. C., presented their report. The Committee consisted of Drs. George M. Sternberg, U. S. A., Joseph H. Raymond, Brooklyn, Charles Smart, U. S. A., Victor C. Vaughn, Michigan, A. R. Leeds, New Jersey, W. H. Watkins, New Orleans, and George H. Rohe, Baltimore. The following are their conclusions :

A.—The most useful agents for the destruction of spore containing infectious material, are:

1. Fire. Complete destruction by burning.
2. Steam under pressure. 110° C. (230° F.) for ten minutes.
3. Boiling in water for one hour.
4. Chloride of lime. A 4 per cent. solution.
5. Mercuric chloride. A solution of 1 : 500.

B.—For the destruction of infectious material which owes its infecting power to the presence of micro-organisms *not containing spores*, the committee recommends:

1. Fire. Complete destruction by burning.
2. Boiling water half an hour.
3. Dry heat. 110° C. (230° Fahr.) for two hours.
4. Chloride of lime, 1 to 4 per cent. solution.
5. Solution of chlorinated soda. 5 to 20 per cent. solution.
6. Mercuric chloride. A solution of 1:1,000 to 1:4,000.
7. Sulphur dioxide. Exposure for 12 hours to an atmosphere containing at least 4 volumes per cent. of this gas, preferably in presence of moisture.
8. Carbolic acid, 2 to 5 per cent. solution.
9. Sulphate of copper, 2 to 5 per cent. solution.
10. Chloride of zinc, 4 to 10 per cent. solution.

The committee would make the following recommendations with reference to the practical application of these agents for disinfecting purposes:

FOR EXCRETA.

(a.) In the sick room:

For spore-containing material:

1. Chloride of lime in solution, 4 per cent.
2. Mercuric chloride in solution, 1: 500.

In the absence of spores:

3. Carbolic acid in solution, 5 per cent.
4. Sulphate of copper in solution, 5 per cent.
5. *Chloride of zinc in solution, 10 per cent.

(b.) In privy vaults:

Mercuric chloride in solution, 1: 500.*

(c.) For the disinfection and deodorization of the surface of masses of organic material in privy vaults etc.:

Chloride of lime in powder:†

FOR CLOTHING, BEDDING, ETC.

(a.) Soiled underclothing, bed linen, etc.:

1. Destruction by fire, if of little value.
2. Boiling for at least half an hour.
3. Immersion in a solution of mercuric chloride of the strength of 1 : 2,000 for four hours.
4. Immersion in a two per cent. solution of carbolic acid for four hours.

(b.) Outer garments of wool or silk, and similar articles, which would be injured by immersion in boiling water, or in a disinfecting solution:

1. Exposure to dry heat at a temperature of 110° C. (230)° Fahr.) for two hours.
2. Fumigation with sulphurous acid gas for at least twelve hours, the clothing being freely exposed, and the gas present in the disinfection chamber in the proportion of four volumes per cent.

(c.) Mattresses and blankets soiled by the discharges of the sick:

1. Destruction by fire.
2. Exposure to superheated steam—25 pounds pressure—for one hour. (Mattresses to have the cover removed or freely opened.)
3. Immersion in boiling water for one hour.
4. Immersion in the blue solution (mercuric chloride and sulphate of copper), two fluid ounces to the gallon of water.

FURNITURE AND ARTICLES OF WOOD, LEATHER, AND PORCELAIN.

Washing several times repeated with:

1. Solution of mercuric chloride 1 : 1,000. (The blue solution, four ounces to the gallon of water, may be used.)
2. Solution of chloride of lime of 1 per cent.
3. Solution of carbolic acid, 2 per cent.

FOR THE PERSON.

The hands and general surface of the body of attendants, of the sick, and of convalescents at the time of their discharge from hospital:

1. Solution of chlorinated soda diluted with nine parts of water (1: 10).
2. Carbolic acid, 2 per cent. solution.
3. Mercuric chloride, 1 : 1,000; recommended only for the hands, or for washing away infectious material from a limited area, not as a bath for the entire surface of the body.

FOR THE DEAD.

Envelop the body in a sheet thoroughly saturated with:

1. Chloride of lime in solution, 4 per cent.
2. Mercuric chloride in solution, 1 : 500.
3. Carbolic acid in solution, 5 per cent.

FOR THE SICK ROOM AND HOSPITAL WARDS.

(a.) While occupied, wash all surfaces with:

1. Mercuric chloride in solution, 1 : 1000. (The blue solution containing sulphate of copper may be used.)
2. Chloride of lime in solution, 1 per cent.
3. Carbolic acid in solution, 2 per cent.

(b.) When vacated:

Fumigate with sulphur dioxide for 12 hours, burning 3 pounds of sulphur for every 1,000 cubic feet of air space in the room; then wash all surfaces with one of the above mentioned disinfecting solutions, and afterward with soap and hot water; finally throw open doors and windows, and ventilate free

FOR MERCHANDISE AND THE MAILS.

The disinfection of merchandise and of the mails will only be required under exceptional circumstances; free aeration will usually be sufficient. If

*A concentrated solution containing four ounces of mercuric chloride and one pound of cupric sulphate to the gallon of water is recommended as a standard solution. Eight ounces of this solution to the gallon of water will give a diluted solution for the disinfection of excreta, containing about 1:500 of mercuric chloride and 1:125 of cupric sulphate.

†For this purpose the chloride of lime may be diluted with plaster of Paris, or with clean, well dried sand, in the proportion of one part to nine.

disinfection seems necessary, fumigation with sulphur dioxide, as recommended for woolen clothing, etc., will be the only practicable method of accomplishing it.

RAGS.

(a.) Rags which have been used for wiping away infectious discharges should at once be burned.

(b.) Rags collected for the paper makers during the prevalence of an epidemic should be disinfected before they are compressed in bales, by:

1. Exposure to superheated steam (25 pounds pressure) for ten minutes.
2. Immersion in boiling water for half an hour.

(c.) Rags in bales can only be disinfected by injecting superheated steam (50 pounds pressure) into the interior of the bale. The apparatus used must insure the penetration of the steam to every portion of the bale.

SHIPS.

(a.) Infected ships at sea should be washed in every accessible place, and especially the localities occupied by the sick, with:

1. Solution of mercuric chloride 1 : 1000 (the blue solution heretofore recommended may be used).
2. Solution of chloride of lime, 1 per cent.
3. Solution of carbolic acid, 2 per cent.

The bilge should be disinfected by the liberal use of a strong solution of mercuric chloride (the concentrated solution—"blue solution"—of this salt with cupric sulphate may be used).

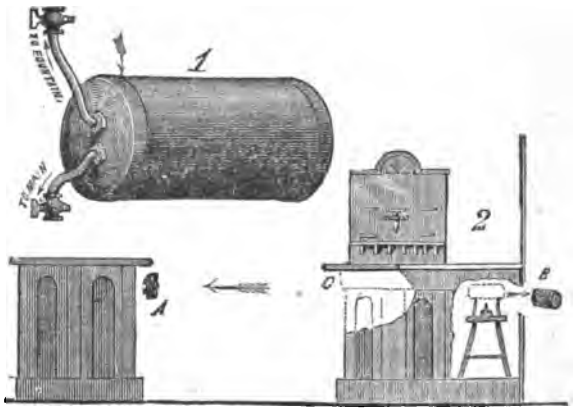
(b.) Upon arrival at a quarantine station, an infected ship should at once be fumigated with sulphurous acid gas, using three pounds of sulphur for every 1,000 cubic feet of air space; the cargo should then be discharged on lighters; a liberal supply of the concentrated solution of mercuric chloride (4 ounces to the gallon) should be thrown into the bilge, and at the end of twenty-four hours the bilge water should be pumped out and replaced with pure sea water; this should be repeated. A second fumigation after the removal of the cargo is to be recommended; all accessible surfaces should be washed with one of the disinfecting solutions heretofore recommended, and subsequently with soap and hot water.

EDUCATION AND SCIENCE.

Sir Lyon Playfair, in his recent address before the British Association for the Advancement of Science, made a stirring appeal for greater prominence to science in the education of youth. I contend, he said, that in public education there should be a free play to the scientific faculty, so that the youths who possess it should learn the richness of their possession during the educative process. The same faculties which make a man great in any walk of life—strong love of truth, high imagination tempered by judgment, a vivid memory which can coordinate other facts with those under immediate consideration—all these are qualities which the poet, the philosopher, the man of literature, and the man of science equally require and should cultivate through all parts of their education as well as in their future careers. My contention is that science should not be practically shut out from the view of a youth while his education is in progress, for the public weal requires that a large number of scientific men should belong to the community. This is necessary because science has impressed its character upon the age in which we live, and as science is not stationary but progressive, men are required to advance its boundaries, acting as pioneers in the onward march of States. Human progress is so identified with scientific thought, both in its conception and realization, that it seems as if they were alternative terms in the history of civilization. In literature, and even in art, a standard of excellence has been attained which we are content to imitate because we have been unable to surpass. But there is no such standard in science. Formerly, when the dark cloud was being dissipated which had obscured the learning of Greece and Rome, the diffusion of literature or the discovery of lost authors had a marked influence on advancing civilization. Now, a Chrysoloras might teach Greek in the Italian universities without hastening sensibly the onward march of Italy; a Poggio might discover copies of Lucretius and Quintilian without exercising a tithe of the influence on modern life that an invention by Stephenson or Wheatstone would produce. Nevertheless, the divorce of culture and science which the present state of education in this country tends to produce, is deeply to be deplored, because a cultured intelligence adds greatly to the development of the scientific faculty. My argument is that no amount of learning without science suffices in the present state of the world to put us in a position which will enable us to keep ahead, or even on a level with foreign nations as regards knowledge and its applications to the utilities of life.

EXPLOSION OF A SODA WATER FOUNTAIN BOILER.

A correspondent of the Scientific American states that an explosion occurred Nov. 18, at 2 P.M., at Wilfert's drugstore, northwest corner of Fourth



and Walnut streets, Cincinnati, Ohio. During the winter the firm sell "hot soda"; the water is heated in a copper boiler, 12 inches long, 7 inches diameter, about one-sixteenth inch thick, the end slapped and soldered on. The only vent the boiler had, was at the fountain faucets; it had no safety valve whatever. A little oil lamp was constantly alight under it, to keep it hot, and the pressure could accumulate to any extent. The result was an explosion. The front end was blown off to A, breaking the marble at C (1½ inches thick) in two, the main portion passing through a cupboard to B. Several persons were there, but no one was injured; all the plate glass in the store was broken. Perhaps this will lead to more care being used in regard to such apparatus in the future; a safety valve is needed just as much as in a boiler.

PHARMACY IN EUROPE.

Dr. E. R. Squibb is taking a well-earned and no doubt long needed holiday vacation traveling in European countries. In the Ephemeris he reflects his observations upon pharmacy and medicine there in contrast to American conditions. On walking through the streets of three of the principal cities of Ireland some remarkable contrasts with American cities are noticeable. Cork, with a population of say 80,000, has clean, well-kept streets, and very dirty people of the lower classes. In a walk of an hour through streets of all kinds only five pharmacists could be counted, and not over ten physicians' and surgeons' signs. In Dublin and Belfast the proportion was scarcely greater. In any similar examination in the United States the number would pretty certainly be twice as great. Not one was seen with any sign of a drinking fountain, or with tobacco or cigars, but patent medicine signs were quite common, or rather were universal. In Glasgow the same sparseness of signs of physicians and pharmacists is noticeable. The pharmacies seem to be, with a few exceptions, small, clean and well appointed; no drinking fountains nor cigars, and but little perfumery or fancy goods, and rarely much display of signs of specialties or patent medicines. All seemed thrifty. In Edinburgh much the same conditions were noticed. In the renowned University there is not only a department of practical pharmacy exceeding in extent and practical appliances for individual study any institution the writer has ever seen, but there is also a department of public health that is thoroughly organized and equipped. More pharmacies were noticed in Edinburgh than in the other cities which have been mentioned, and in one locality five were counted within a quarter of a mile—two proprietors each having two of these stores. Still in other parts of the city which were seen the number was judged to be considerably below that in similar cities of the United States. No drinking fountains nor tobacco were seen in any store, and the number of those which paraded nostrums were small. The front portions of most of the best stores were small, and all seemed to offer small varieties of toilet articles. The number of physicians' signs in the streets visited seemed very small indeed. The smaller towns seen in Scotland do not differ from the larger ones in the apparent contrast with those of the United States in the number of physicians and pharmacists. Almost every one above the size of a village has a public dispensary, where advice and medicines are given free of cost, and these places generally look neat and clean, and have the air of being much used. In several English towns noted the contrast appeared to be as great. In such a town as Stockton-on-Tees, for example, with a population of about 50,000—a most active and busy place—there are not more than five or six pharmacists, or about one to each 10,000 of population; and the physicians in active practice were said to be hardly more numerous. Both pharmacists and physicians, therefore, had good occupation, and were doing well at a very moderate scale of prices and charges. Even in London, with its admirable school, and under the free trade and competitive influence of a great metropolis, the contrast is marked, while the general thrifty condition of the establishments is also marked. Here the combination with the drinking saloon is occasionally seen, but none were noticed that were licensed to sell spirits.

In Germany, however, the contrast is greatest. Here the effect of a legal limitation in the number of pharmacies is conspicuously seen, and the character and appearance of the establishments are much changed; and this change is maintained in Copenhagen and Christiana. In Hamburg, with a population of about half a million, the number of pharmacies is said to be not over twenty-five, and in Copenhagen—population about 250,000—the number does not exceed ten. These pharmacies, as a rule, have no large show windows, and in their small, inconspicuous windows may often be seen a few growing plants—sometimes medicinal plants—but never in such number as to seriously exclude light. Occasionally the prominent one of large cities occupies all of the two or three stories of a large building, the upper parts being used as laboratories and storerooms. The lower story, or dispensing room, is commonly large, always fitted up neatly and often elegantly, but without much effort at display, and without advertisements of any kind. Everything looks clean, neat and very orderly, having a quiet, professional air. In a few short opportunities, at different places, it was rare to see a person come with a verbal message, and still more rare to see any one bring a vial to be filled, and it was understood that prescriptions are never repeated without a special order from the prescriber. There apppears to be very little self-prescribing done through these pharmacies. That is, very few persons buy medicines over the counter for their own use, as is so largely done in Great Britain and in the United States. It happened that not a single instance was seen anywhere of a person coming in and asking for so much money's worth of anything, such as laudanum, spirit of nitre, castor oil, paregoric, etc., and not a single demand for any proprietary medicine or nostrum. No nostrums were in sight anywhere, and no ready-made pills or potions were seen; but it was not uncommon to see in a case or closet bottles of carbolic acid and other disinfectants, with various popular labels on them, and bottles of tooth wash, cologne water, etc., with the label of the pharmacy. The number of bottles on the dispensing shelves was very great. The locked closet for powerful agents was generally to be seen, and, so far as could be observed, the vials containing them were very small, indicating frequent re-supplying of the quantities to secure freshness of instable articles.

COCAINE PREPARATIONS.

J. T. Brosson suggests a number of formulas for Cocaine in preparations. (Drug Circ.)

The following is said to allay the irritation attendant on pharyngitis:

Take of

Cocaine hydrochlorate	grains 6
Glycerin	drams 6
Distilled water	" 8
Fluid extract golden seal	" 2

Apply to the throat three times a day.

This prescription has been recommended by a high German authority as a remedy for sea sickness.

Take of
Cocaine hydrochlorate.....grains 2
Alcohol, qs. to dissolve.
Distilled water q. s. add.....fl. ozs. 4
One teaspoonful every three hours.

HAY FEVER.

Solution cocaine hydrochlorate, 2 per cent.....fl. drs. 4
Apply to the nostrils three times a day with a camel's hair brush.

CATARRH SNUFF.

Take of
Cocaine hydrochlorate.....grains 2
Bismuth subnitrate.....drams 1½
Bisulphate of quinine.....grains 6
Powdered orris root.....dram ½
Make an impalpable powder and use three times a day.

EARACHE.

Take of
Solution cocaine hydrochlorate.....fl. dr. 1
Glycerin ..... " 1
Introduce 2 drops at a time into the ear.

TOOTHACHE DROPS.

Take of
Solution cocaine hydrochlorate (using alcohol instead of water) 2 per cent.....fl. dr. 1
Compound tincture gum benzoin..... " 1
Apply to the cavity on raw (or absorbent) cotton.

CORN CURE.

Take of
Solution cocaine hydrochlorate (using alcohol instead of water) 2 per cent. fl. dram 1
Salicylic acid..... " ½
Alcohol..... " 1
Fluid extract of belladonna.....min. 40
Collodion..... " 80
Apply to the corn with a straw or other convenient means.

Many other formulæ could be presented or devised, but most of the foregoing will suggest the application of the new and wonderful substance to the relief of a class of common ailments, in which its topical application is perfectly proper and within the domain of legitimate dispensing. It can not be too strongly emphasized that the use of cocaine, internally or by hypodermic injection, should be confined to the skill of a careful and intelligent physician.

ELIXIR QUININE, IRON AND STRYCHNINE.

R. Rother prepares this elixir (American Journal Pharmacy, Vol. xv, No. 10) by replacing the sulphates with hypophosphites, but since these salts of the alkaloids are not obtainable in the market, and since, also, their composition relative to hydrous water is not known, the process embodies their preparation by double decomposition between the sulphates and calcium hypophosphite and solution in alcohol.

The following formula is therefore proposed:

Ferric citrate.....	grains	261
Quinine sulphate.....	"	140
Sodium hypophosphite.....	"	68
Calcium "	"	28
" carbonate, precip.....	"	60
Strychnine, powdered.....	"	2
Oil of anise.....	minim	1
" caraway.....	minims	2
" Ceylon cinnamon.....	"	2
Sugar granulated.....	troy oz.	6
Alcohol.....		
Water.....of each sufficient to make	pint	1

Dissolve the sugar in seven fluid ounces of water and add one and a half fluid ounces of alcohol. Rub the oils thoroughly with the precipitated calcium carbonate, and then gradually add, with constant stirring, one to one and a half fluid ounces of the preceding mixture. Pour this now into the remainder of the saccharine solution and set the mixture aside, shaking it up frequently; then after an interval of about two hours filter it, returning the first turbid portion, and when all has passed through follow with water until the filtrate measures thirteen fluid ounces.

Upon the calcium hypophosphite pour half a fluid ounce of water, and warm the mixture on a water-bath. Now add the quinine sulphate, and when double decomposition is complete remove the mixture from the water-bath and gradually add one fluid ounce of alcohol; then pour it into a small filter, and when all the liquid has passed through follow with alcohol until the filtrate measures two fluid ounces. Then pour this into the simple elixir first obtained, and mix the whole. Mix the ferric citrate, sodium hypophosphite and one fluid ounce of water, and apply heat until complete solution has occurred. Now pour the elixir of quinine hypophosphite, previously finished, into this solution, and if necessary add water to the measure of a pint, and mix the whole; then add the strychnine, and when this has dissolved filter the elixir if necessary.

When employing a commercial article of ferric citrate in the preparation of elixirs especial care must be exercised not to use the so-called soluble kind, as this is merely the ammonio-citrate. Further care should also be had not to select a ruby tinted kind appearing in flat scales having an equilateral tendency. This is also a hydro-citrate containing alkali, and hence of indefinite composition. The normal ferric citrate has a garnet tint and occurs in curved oblong scales; it is the only proper form to employ.

Strychnine readily combines with solutions of the double salts of the ferric citro-hypophosphites, and all these solutions permanently retain their fine apple-green tints. Each fluidram of this elixir represents about two grains of ferric citrate, one grain of quinine sulphate, and one sixty-fourth of a grain of strychnine.

FOR REMOVING SILVER STAINS FROM THE HANDS.—Vogel recommends a mixture of ferricyanide of potassium and hyposulphite of soda. A few crystals of the former are dissolved in a solution of hyposulphite or from 10 to 20 per cent. of a 20 per cent. solution of the ferricyanide may be added to the hypo-sulphite solution, and applied to the stains. This substance is not poisonous, and does not destroy the color of articles of clothing.

As a reagent for the detection of artificial gums in gum Arabic Hager recommends (Pharm. Centrall.) a mixture of ferric chloride and potassium ferricyanide in solution. The reagent is prepared by mixing 15 drops of the pharmaceutical solution of ferric chloride with 15 drops of cold and saturated solution of potassic ferricyanide, and 5 drops of hydrochloric acid (spec. gravity 1.165) with 60 cc. of water. If 6 cc. of a 20 per cent. solution of the sample of gum be treated with 3 cc. of this reagent, pure gum yields a clear yellow, viscous liquid, which remains unaltered from eight to ten hours. If, however, dextrin be present, the yellow color changes either at once or in the course of an hour, and in two or three hours the mixture has become blue.

Editorial.

We take pleasure in publishing the communication by "J. A. P." in our correspondence columns. In paying tribute to the men who have done so much through their labors to perfect the Pharmacopœia, and incidentally to the elevation of pharmacy, the writer will have the approval of all right-thinking pharmacists. We agree with him that there can be no representation without identification; if the West, or any other section of the country, is to be represented in the Pharmacopœia it must work for it. It is, alas, only too true that the West was represented by only nine members in the convention of 1880, of these two being from Ohio, one from Kentucky, two from Illinois, three from Missouri and one from Iowa. In strong contrast was the representation from the District of Columbia, consisting of ten members of medical associations and three pharmacists—thirteen in all, a number out of all proportion to the territory represented. When we consider that out of the total number—seventy-five— present, fifty were members of medical associations, it is no wonder that the work is not satisfactory to the wants of the great mass of druggists, but, on the contrary, that this small representation accomplished so much. It has been generally conceded that the U. S. P. 1880 was not only a great step in advance over former editions, but that in arrangement, requirements and tests it has withstood criticism far better than two of the similar works succeeding it, namely, the French Codex and the British Pharmacopœia. Of these the first mentioned was subjected to such a fire that its replacement by another edition was deemed necessary. Of the British Pharmacopœia it may be said that, judging from the defensive position the three editions of the work have been placed in, the outlook promises anything but indorsement by the pharmaceutical body of Great Britain.

The U. S. P., on the other hand, even to the details of pharmaceutical processes, was uniformly conceded to be accurate, and as presenting the most advanced improvements in practice, taken as a whole. So much the more is it then to be regretted that in the practical application of this work the pharmacists should be handicapped by the parts-by-weight idea as a quantitative system. This was the shibboleth of the U. S. P., the sacrifice of its practical value to the theoretical, super-scientific, centesimal parts by weight system.

Regarding the N. Y. and B. Formulary, our correspondent has misapprehended the real desire for such a work. The purpose of establishing this sort of unofficinal Formulary has been clearly stated, namely, to give uniformity to the many unofficinal compounds so largely prescribed, but yet of such ephemeral or polypharmaceutical character as to be denied admission in the U. S. P. This is the sole purpose in view, without encroaching upon the authority of the U. S. P. But its practical value will depend largely upon the kind and the character of the formulæ embraced in such work. Shall the compilation of the National Formulary be participated in by the nation at large? That remains for the future to decide.

The rapidly increasing number of State pharmacy laws, many of them almost entirely useless, would seem to indicate a woful misapprehension of the essential provisions of a good pharmacy law or a determination to shove any sort of legislation through at whatever cost, leaving the correction of deficiencies to future amendments. The creation of a pharmacy act is usually brought about after this wise. Some enthusiastic and public-spirited druggist conceives the idea that an act of this kind is greatly needed for the protection and advancement of pharmacy in his State. Acting upon this very laudable and logical conclusion, he confers with his fellow-pharmacists with the probable result that all favor immediate action. The question now arises, What shall be the nature of the law, and who shall see that the proper draft is prepared? This appears to be easy of solution. Have not New Jersey and Maine and Iowa and Illinois pharmacy acts in operation, and with a few changes can not a copy of either or the essential provisions of all combined be made to do service? Certainly it can, and in due time the proper druggists' committee meets in solemn conclave to deliberate over a patchwork draft prepared by some novice or by some "eminent legal firm" who had little more experienced knowledge of the intricate subject in hand than a native of Zululand. The sections are now considered by the committee with reference to their general principles, and, with a few minor changes, adopted as a matter of course, out of deference in great measure to the "eminent counsel." The draft is now ready for presentation to the legislature; the inevitable opposition at once presents itself here, and in a moment of fear or apparent weakness, vital points are conceded and the bill finally passes in a badly dilapidated condition, quite or wholly unfit for the important work for which it was designed. This is the history, with few variations, of the majority of our State pharmacy laws, and affords an explanation of the contempt with which they are regarded by many practical men who detest a mere pretense, a form without substance or life.

How to secure a really efficient law is a question then, worthy of serious thought. We would suggest (1) attention to recognized fundamental requirements such as making an examination by the State Board the sole test of registration and providing for a sufficient revenue to support the act with dignity and vigor; (2) a close scrutiny of what are deemed the "minor provisions," giving especial attention to conciseness and accuracy of expression, and (3) when before the legislature surrender no vital provision, but demand either a law that will *work* or nothing. It is moonshine to believe that defects can be readily cured by subsequent amendments. A good bill is stronger with a legislature than a weak law ever can be. The druggists are stronger and more nearly unanimous with a bill commanding their confidence than they ever will be with questionable amendments to an act which by its weakness has bred contempt and dissension. It is safe to assert that no law not strong enough from the start to command respect will ever be strong enough to survive the strain of a conflict for proper amendment. The prime remedy for inefficient pharmacy laws therefore, is not to pass any, but to wait until the "powers that be" are educated to a proper understanding of the subject. We would finally suggest that any intelligent and experienced member of a Board of Pharmacy is better qualified to outline the form of a draft, if not to prepare one, than the "eminent legal counsel" to whom the task is usually intrusted.

We are led to these remarks by the perusal of a number

of recent laws or bills drawn after the Illinois act as a model. While the Illinois law is good enough and has made a splendid record since its enactment, it has nevertheless some serious defects. We observe that in embodying the sound provisions the authors of these recent measures faithfully copied most of these consumptive features also!

The question of profits in the drug business, and especially in the dispensing of prescriptions, has received more than its share of attention of late from the popular press. The newspapers treat the subject as a rule from the same standpoint as the average citizen is capable of viewing it, and, we may add, that the statements and conclusions of both are equally erroneous. This fact has become apparent to the more intelligent and fair-minded citizen, so that the periodical outbursts of indignation about "enormous profits" in the drug business have lost all effect. The subject has, therefore, received little, if any, notice in pharmacal journals. Quite recently, however, the Scientific American, a paper which should know enough to discuss the subject intelligently, indulged in the most reckless misstatements and perversions, tending to the conclusion that retail druggists, as a rule, were little better than robbers. In a communication, entitled "The Dollar Medical Shop," a Hartford, Conn., correspondent, who signs himself "A Druggist," enters a protest against the attack upon his profession. He reminds the Sci. Am. of the great responsibility of the apothecary; that the skill and care required in correct compounding renders it necessary that he should have a profit largely in excess of the simple cost of the ingredients, etc.

The Sci. Am., in reply, states that "these considerations have not been overlooked," and that "they are of sufficient weight to make a profit of two or, even in some cases, three hundred per cent. quite justifiable," adding that if the charges were greater there would be no cause for complaint, but that when the percentage largely exceeds this, "as is frequently the case," then there is just cause for protest.

As long as people insist upon viewing the drug business as purely a trade, and upon the druggist as a man engaged in simply an ordinary commercial pursuit, as a grocer or hardware dealer, the two or three hundred per cent. would indeed be extortionate. If they view the compounding of prescriptions in the same light as the sale of a pound of sugar, or as a purely mechanical operation, then the profits are, of course, out of all reason. But, if they concede to the art of dispensing the remuneration commonly recognized as just in any other branch of skilled labor, it will be found that the compensation is not relatively even as large. The dentist, the jeweler, the optician, not to mention the doughty plumber, charge not only more for their *services*, but, in addition, the percentage on material employed by them far exceeds that obtained by the average druggist. In the case of the latter class their profits have become so notorious that "solder one dollar per pound" has become a by-word, yet it is billed at that price, which gives a net profit of about 1200 per cent.; their time is worth from seventy-five cents to one dollar per hour. This is an illustration only of one class; surely the services of a pharmacist should rank at least with these!

But the professional pharmacist aspires to something higher. We shall not point out what he, owing to his position, frequently can do to save human life, but simply to ask whether a person of fair intelligence, educated in an especial line of work, requiring skill, care, and frequently knowledge of a higher order, is not entitled to as liberal compensation as those employed in other branches much less exacting in their qualifications?

If we now add to this the fact that the public and the nature of his calling require a conspicuous and attractive place of business, entailing an expense to which other branches of trade are not usually subject, an additional reason for adequate profit is presented.

The Sci. Am. makes the charge that the profits on prescriptions are relatively higher than on any other class of goods. This, of course, is true; but when it insinuates that this is because the customers are not acquainted with the price of the different ingredients, and that for this reason he is taken advantage of by being charged extortionate prices, it is guilty either of willful mendacity or unpardonable ignorance.

The Department of Queries and Formulae during the current year has grown in usefulness, judging from the frequent communications from our readers. But, we believe that many more should avail themselves of its facilities for discussing the many little points in daily practice, not perhaps of sufficient importance to warrant reference in other departments of a journal.

We are aware that the information given is sometimes meager, or perhaps indefinite, especially regarding formulas of proprietary articles and other extemporaneous preparations, for the reason that they are usually of a local character, and correct information is not available to us. But we are in a position, possibly, to throw out such hints and suggestions as considerably facilitate the work, and when acted upon may be found to prove profitable. Now it is in this direction that this department can be made of great value; when formulas and others' methods in manipulation have been practically demonstrated, let these be communicated for the benefit of the pharmacists in general. This system of coöperation could obviously be made very interesting and profitable.

The decision of Secretary Lamar, authorizing a suit by the Government at its own expense, to test the validity of the Bell telephone patents, is quite generally accepted as foreshadowing the doom of the rapacious monopoly controlling the patents. Whether this conclusion be born of hope or based upon a knowledge of the legal principles involved, certain it is that the questions at issue are now offered an opportunity for adjudication under circumstances most favorable to justice and the welfare of the general public. It is well that the suit be instituted independently by the Government and not through one of the rival companies whose individual interests are involved equally with the Bell company, and as defendant would fairly be open to the possible compromise of the case should the course of events not be to its liking. The Bell company has used its power with so reckless a disregard of the rights of the business public, that its downfall would be hailed as a national blessing.

The Iowa Pharmaceutical Association meets in annual session at Des Moines, Feb. 10, next. The occasion promises to be an eventful one in view of the recent Supreme Court decision relative to sales of liquors. Reduced railway rates will doubtless be secured.

The Chicago Postoffice Department has, in a measure, disposed of the "postage-stamp nuisance" by appointing special postal agents in all parts of the city at the munificent salary of $25 per year. The agencies have, in most cases, been given to druggists. The salary, though not large, is considerably in excess of the profits usually derived from this branch of the "500 per cent. profit" drug business.

Queries and Formulæ.

WE cordially invite queries for this department on any subject of pharmaceutical interest. Correspondents will give their name and address, but initials only will be printed when desired. It is especially requested that they furnish such information as they may already possess on the subject embraced in their queries. Queries cannot be answered by letter. Communications for this department should be addressed to Editor of the WESTERN DRUGGIST, 69 Dearborn Street, Chicago.

1. SYRUPUS ROBARANS.

E. S. Jr. (Louisville, Ky.) The following formula is accredited to the preparation of the above name:

Hypophosphites of potassium and of iron, of each,	grains	24
Hypophosphites of calcium and of manganese, of each,	"	16
Hypophosphites of quinine,	"	8
" of strychnine,	"	1
Syrup sufficient to make,	ounces	16

The exact modus operandi for preparing the above is not known. It evidently does not differ from the processes formerly given in this department for the compound Syrup of Hypophosphites Quinine, Manganese, etc., known as Fellows.'

2. SEA FOAM.

Subscriber (Waukegan, Ill.) desires a good formula for a barbers' sea foam:

℞.	Alcohol	ounces	8
	Water	"	8
	Soap	"	2
	Carbonate of potassa	"	½
	Oil of lavender	min.	20
	Tincture of soap bark	ounces	2

Mix the alcohol and tincture, in which dissolve the oil. Dissolve Carbonate of Potassa in the water and the soap; mix the two solutions.

The tincture of soap bark is made with strong alcohol, 8 ounces to 1 pint.

3. PHENOMENON OF LIGHT.

W. J. P. (Willimantic, Conn.) inquires why sparks of light are produced in the mouth on chewing wintergreen candy (in the dark.)

We can only refer the phenomenon to a change in the physical condition of the sugar crystal, probably a change in the aggregation of the particles or molecules, by the force exerted, resulting in change in the crystalline structure of the sugar, having the property of refracting and dispersing light as in the diamond. It is well known that the various conditions in which a substance may exist and the physical properties it may evince, whether hard or soft, liquid or solid, crystaline or amorphous, refracting, dispersing or absorbing light, depends upon the peculiar condition or state of aggregation of the particles or molecules composing it. These various conditions are called allotropic conditions. Ice is an allotropic condition, water an amorphous, phosphorus an allotropic condition of crystallized phosphorus, diamond and graphite or black lead are both allotropic conditions of carbon, both composed of the same substance but showing widely different properties. The diamond has the physical property of refracting and dispersing light which graphite of a different crystalline structure has not (although the same in chemical composition) owing to a difference in the state of aggregation of the particles or molecules composing it. Ordinary sugar in the crystalline form has not the physical property of emitting light but when struck a quick, sharp blow or by friction with a hard substance will become luminous, or acquire the property of emitting light, as has been observed in cutting hard sugar from a barrel with a hatchet, in the dark, when a luminous streak is visible.

The reason may therefore be given that the molecules or particles composing the sugar when forcibly struck assume such a condition of aggregation and arrangement as to acquire the property of refracting and dispersing light, the force exerted by the friction of the teeth bringing about this result.

4. ON THE BLUE COLORATION OF GUAIAC AND GUM ARABIC.

W. R. J. (Milwaukee, Wis.) desires to know the cause of mucilage of Gum Arabic and tincture of Guaiac producing a green mixture, also whether or not it should be so dispensed or how it may be avoided, as in the following prescription:

℞.	Tincture guaiac	f℥i
	Tincture cinchona	f℥i
	Mucilage gum Arabic	f℥ii
	Honey	f℥iv
	Cinnamon water	qs. f℥xii

Mix.

It is evidently intended in the above to administer the guaiac resin in emulsion or suspension in a mucilaginous liquid. As the tincture alone is so strongly alcoholic and precipitates so easily in contact with aqueous liquids and those weaker in alcohol, this form of administration seems very desirable. The production of a slight or almost imperceptible greenish coloration when first mixed changing gradually to dark green and blue, is exceedingly objectionable and is apt to cause the patient uneasiness when he beholds a green medicine in the place of a colorless one of the previous evening. Green for some reason being a particularly ominous color in the minds of most of the uninitiated in regard to poison, seldom fails to cause a speedy return of the medicine with remarks more or less complimentary to the apothecary. It seems from recent investigations that the green color is due to the oxidation of the resin under the influence of a principle in gum Arabic common to most gums, closely resembling the diastatic ferment in its properties, i. e. in changing starch to dextrin, in coloring guaiac green, in color reaction with Orcin, and in losing its diastatic effect on boiling—all characteristic of ferments. Since the greenish blue coloration of guaiac is also produced by other oxidizing agents and ferments, we infer the change to be one of oxidation of the resin under the influence of the gum ferment. It has not as yet been isolated in the pure state. As heat destroys the activity of the ferment, the remedy is plain. Simple boiling of the mucilage before emulsifying the guaiac will destroy the cause of the green coloration.

5. BURNETT'S COCAINE.

F. E. Hunter (Independence, Ia.): We have no authentic formula, but have no doubt that the preparation is simply a perfumed mixture of cocoa-nut oil and alcohol, according to the following formula:

Cocoa-nut oil	ounces	4
Cologne water	"	4

Mix.

6. BRICK-WALL EFFLORESCENCE.

W. B. A. (Kansas City, Mo.), inquires the cause of the peculiar efflorescence so frequently noticed on brick walls. The chief cause is the use of mortar which contains magnesium sulphate. In laying the bricks they are saturated with water to prevent the absorption of water from the mortar too rapidly, which would cause them to "set" too quickly. The salts contained in the bricks are sulphates and are all soluble in water except that of calcium; in the process of drying the bricks these salts, consisting principally of magnesium sulphate, are left upon the evaporation of the water. This accounts for the appearance of the efflorescence always upon the face of walls, because the evaporation is there the greatest. The salts disappear, apparently, after a rain, but only temporarily from view, owing to their solution; when evaporation has been effected they appear again as efflorescence. As a means of prevention, only good lime not containing magnesium sulphate should be used.

7. SPIRITS OF TURPENTINE AND OIL OF TURPENTINE.

J. F. B. (Jasper, Mo.), desires to know the difference between "spirits" and "oil" of turpentine. He says that although the Dispensatory and U. S. P. make no distinction, he has noticed a difference; the "oil" being more viscid and having a higher specific gravity than the "spirits." The latter cannot be dispensed to his customers as oil of turpentine.

Turpentine is an oleoresinous exudation from different species of pines. When subjected to distillation the oil being volatile is recovered, and the resin remaining constitutes the "rosin" of commerce. The term "spirits" for the oil is a misnomer, because oil of turpentine is a true volatile oil and forms the basis of a class of volatile oils termed the hydrocarbons, having the chemical formula $C_{10}H_{16}$, and to which oils of copaiba, juniper, etc., belong. Oil of turpentine is probably a mixture of different hydrocarbons, which accounts for the difference in density or boiling point of different specimens according to the peculiar process of distillation employed. It undergoes changes, also, by exposure and by contact with water, becoming oxidized, then possessing properties entirely different from the freshly distilled oil. When used as a solvent the commercial oil, or so-called spirits, is no doubt preferable to the oxidized; but for certain uses in medicine the latter may be used to advantage as a deoxidizing agent. The rectified oil of commerce is free from resin and is the kind directed to be used in the German Pharmacopœia. On the other hand Dr. Hager states that as an antiseptic in diphtheria the crude oil, or spirits, has given the best results. The rectified oil is obtainable in the market; the following is a formula for the purification of the commercial oil: Four ounces of the oil are agitated with 24 ounces of lime water, the mixture is then distilled until three ounces of the oil are obtained, which is then separated from the water which comes over in the distillation and preserved.

8. FOUR CHLORIDES.

D. B., JR. (Labadeerville, La.), desires the formula for four chlorides.

A well known disinfectant is composed of the four chlorides, viz.: Magnesium, potassium, sodium and zinc chlorides. We do not know of any other preparation composed of these four principal chlorides.

9. CARBOLIC CREAM.

T. C. JOACHIM (Belmont, Ill.): We cannot find a formula for the above, but suggest the following as likely to give a satisfactory preparation:

Take of—

Sodium borate	drams	2
Rose water	ounces	2

Dissolve and mix with

Olive oil	ounces	8
Acid carbolic	grains	30

If cottonseed oil is used the proportion of borax may be increased so as to produce a creamy mixture.

10. SYRUP TRIFOLIUM COMPOUND.

C. R. D. (Chicago, Ill.): The following formula is recommended by Dr. E. F. Rush in the Chicago Medical Times:

Take of the fluid extracts of—

Red clover	fl. ounce	1
Berberies aquifolium, cascara, amarga, phytolacca, lappa and stillingia, of each	fl. ounce	½
Xanthroxylum, berries	fl. dram	1
Potassium iodide	" "	2
Syrup sufficient to make	fl. ounces	16

11. BAKING POWDER.

N. (New Albany, Ind.) desires a recipe for making a cheap "Baking Powder," the cost not to exceed six cents per pound.

A formula for a *good* baking powder will be found in this journal for December, 1884 (page 286). It costs about fifteen cents per pound. We are not ambitious to give a formula for a cheap powder, since there are a sufficient number of that character afloat now. A baking powder costing six cents per pound must be a gross fraud upon the public.

12. PERCENTAGE SOLUTIONS.

L. A. S. (Fontanelle, Neb.) inquires how different percentage solutions may be obtained. A four per cent. solution of hydrochlorate of cocaine, for example: This is a question in mathematics more than a pharmaceutical one The strengths of solutions are usually given in percentage, because more convenient than in the form of one grain to the dram or ounce, or one ounce to the pint, etc. It has the disadvantage, however, of being based upon the number of units in one hundred as one per cent. (one in a hundred) five per cent. (five in a hundred) etc., and therefore requires extra calculation when it is desired to express the proportion in a quantity of which there is no decimal proportion, as in the fluid dram or ounce. Take for example, a four per cent. solution of cocaine hcl., this contains four grains of the salt in 100 grains of water, but how much does it contain in a fluid ounce? In the percentage system, all the component parts must be reduced to common quantity; in this instance the grain is the most convenient, then the query arises how many grains in one fluid ounce of water? This is stated to be 456 grains. If there be 4 grains in 100 there must be 0.04×456—18.24 grains in one fluid ounce, or 18.24 divided by 8—2.28 grains in one fluid dram. This is the system upon which the U. S. P. '80 is based. We refer to the "Clerks' Department" of last month for further particulars.

13. SYRUP SQUILLS COMPOUND.

A. Lernhart (Virginia City, Nev.) finds that the process in the U. S. P. '80 for compound syrup of squills does not yield a satisfactory product. He says, "After standing a few days a peculiar coagulum forms on the surface of the liquid which gradually precipitates and is then easily sepa-

rated by straining." He inquires the cause and how it may be prevented.

This precipitation is owing to albuminous matter extracted from the squills. In the process employed it is sought to get rid of this substance in the evaporation of the percolate and in the subsequent addition of boiling water by coagulation. The liquid is then filtered, by which the coagulated matter is rejected. Here is where the officinal directions are faulty in directing that the solution of the extract in boiling water be filtered after an addition of precipitated calcium phosphate, without specifying that *it should first be allowed to cool*, or be set aside for a day or two. A portion of the albuminous matter is retained in solution as long as it is warm, and the liquid can therefore not be perfectly freed from it until it has become quite cold. With this precaution, filtering the liquid only when cold, a clear preparation may no doubt be produced.

It is possible that the Senega may be the cause of turbidity but it does not take the form described above. Senega contains a considerable quantity of pectin which forms a gelatinous precipitate in preparations, soluble in alkalies. For this reason ammonia is used in officinal preparations of Senega, and would answer the same purpose in the com pound extract of squills and senega for preparing the syrup.

14. DISCOLORED SPIRIT OF NITRE.

H. B. Rains (Columbia, Tenn.), referring to query No 197 of last month, recommends that the spirit of nitrous ether be agitated with magnesium carbonate and the clear liquid decanted. The correspondent to whom we replied that the spirit would be decolorized only by distillation, has also informed us that he used magnesium carbonate with success. While we do not doubt that decoloration was effected by the use of the magnesium carbonate which precipitated the iron, this operation may not have "purified" the spirit as desired in the query. The red color, as before stated, being due to nitrate of iron in acid solution from decomposition of the nitrous ether, becomes discharged by the precipitation of the iron, but the magnesium carbonate is equally soluble in the acid solution with the formation of magnesium nitrate. This admixture is as much of an impurity as the nitrate of iron, except that being colorless its presence is not evidenced by imparting a red color to the solution. So that there is nothing gained in the purification of the spirits which can only be effected, if at all, by distillation as formerly suggested. Spirit nitrous ether is at best, as supplied by manufacturing chemists under the questionable F marks, a very inferior article, and does not admit of treatment with chemical reagents. It is suggested that our valued correspondents make a practical test of the strength of a specimen of the spirit according to the U. S. P.; also of the specific gravity of the so-called 3 and 4 F article, and report the results.

15. FIRE HAND GRENADES.

M. Fordham & Co. (Elmira, Mich.) desire to know the composition of the "Gifflin Self-Acting Fire Grenade," and whether or not it is true that the contents of most of those in the market is simply salt water or brine. As to the leading brands of hand grenades, complete analyses were published in this department for last month. Of the special kind referred to we know nothing. The latest style is to inclose a dry mixture of an alkali and acid in a cylinder shaped like a syringe, and attach it by means of a hose to the hydrant. The water causes the powders to react, after the manner of a seidlitz powder, and escapes through the opposite end charged with carbonic acid gas. This is probably the kind termed self-acting.

16. ELIXIR IRON, QUININE AND STRYCHNINE.

M. W. Pinger (St. Paul, Minn.) desires a formula for this elixir easy of application. A formula for the above elixir is published in this journal, page 18. The New York and Brooklyn Formulary gives the following:

Take of

Iron phosphate U. S. P. '80	grains	256
Quinine sulphate	"	128
Strychnine "	"	2½
Aromatic spirit	fl. ounces	6
Water	"	4
Syrup	"	6
Simple elixir sufficient to make	"	16

Dissolve the strychnine sulphate in the aromatic spirit in a flask, add the quinine sulphate, place the flask in hot water and shake it well occasionally. Dissolve the iron phosphate in four fl. ounces hot water in a capsule, add the syrup and heat the liquid nearly to the boiling point. Then pour this hot solution, *all at once*, into the flask containing the alkaloids in solution and shake the mixture immediately. When cold add sufficient simple elixir to make sixteen fl. ounces; allow it to stand for 24 hours, and filter.

If the aromatic spirit is not on hand, an alcoholic solution of the oils ordinarily used for flavoring, viz.: Orange, cinnamon, etc., may be used. The quinine sulphate will not dissolve completely until the solution of iron phosphate is added, provided that both solutions be quite hot. The iron phosphate (U. S. P. '80) if not obtainable in the market, may easily be prepared according to the official process and kept in a fifty per cent. solution.

17. SPECIFIC GRAVITY OF SOLIDS.

S. L. T. (Buffalo, N. Y.) desires to know why the result obtained by him in taking the specific gravity of alum was different from the sp. gr. of that substance given in the Dispensatories. The specific gravity of the alcohol in which the alum was weighed was stated to be .811, which leads us to infer that your weights or balance were not accurate.

18. POND'S EXTRACT OF HAMAMELIS.

Chas. W. Parr (Barron, Wis.) A process for this preparation was published in this journal in 1884. It is substantially as follows: A convenient quantity of the fresh bark, say 10 pounds, is macerated in a mixture of 16 pints of water and 2 pints of alcohol. Eight pints of this mixture are recovered by distillation and furnishes a distilled extract of hamamelis of superior quality.

19. FINGER NAIL POLISH.

G. A. R. (Minneapolis, Minn.), desires a formula for a mixture to clean the finger nails. Different preparations of tin have been used successfully, probably on account of their detergent and astringent qualities. The use of Oleate of Tin has been highly recommended by Dr. Shoemaker as imparting a splendid luster to the nails, and when colored by a little carmine, giving to them a fine roseate tint. The oleate is prepared similarly to the oleates of zinc, etc., formerly described in this journal. The formula is about as follows: To a solution of Castile soap in warm water one ounce to the pint, gradually add a 10 per cent. solution of chloride of tin until it ceases to produce a precipitate. The insoluble substance formed, after being washed and dried, is tin oleate. It is a soft solid, and is used without further preparation.

20. EFFECT OF BORAX ON MERCURIC CHLORIDE.

W. H. G. (Columbus, O.), desires to know what action borax may have on the chloride of mercury in the following:

℞

Hydrargyrum bichlor.	ʒiii
Sodium borate	ʒvi
Distilled water	ʒvi

M et sig.

Use externally. As the salts were not completely dissolved, the question of precipitation could not be determined. It forms a brick red mixture, and was used without causing any ill effects. Should it be dispensed?

That a chemical reaction and precipitate does form, is clearly shown by the deposit being of a color unlike either of the two ingredients. Reference to any table on solubility will show that borate of mercury is practically insoluble in water, and, applying the rule that when two substances are mixed, if by a rearrangement of the atoms an insoluble compound would be formed, the precipitation will take place. By referring to their solubility it will be seen that the quantity of mercuric chloride is the exact amount soluble in that quantity of water, i. e., 1 in 16. Borax has an equal solubility (1 in 16), so that a sediment would be present even if the borax were used alone, but as the borax is used in the chemical reaction, any excess of borax becomes dissolved. The mixture contains, therefore, a precipitate of borate of mercury with some borax in solution; the insoluble precipitate is of course not as active an agent as the more soluble mercuric chloride, and for that reason could be used with more freedom; probably in the same way and for the same reason that "yellow wash" and "black wash" have the mercury in a finely divided precipitate.

Whether or not it is too strong a solution we are not in a position to decide, as that would depend entirely upon its use as dictated by the judgment of the physician. In view of the fact, however, that the therapeutic activity of most compounds of mercury depends largely, if not entirely upon their solubility, we should not hesitate to dispense the mixture.

21. PLIABLE SEALING-WAX.

T. N. C. (Detroit, Mich.), desires to know the composition of the so-called pliable sealing-wax, used for capping vials. We have not seen the vials named, but a pliable coating for corks is made by dipping the necks of the stoppered vials in a melted paraffine colored red by alkanet, or in a concentrated solution of red gelatin.

THERAPEUTIC NOTES.

BOUGIES FOR GONORRHŒA.—Senftleben ("Monatsh f. prakt. Dermatol.") recommends the following formula for one variety of small bougies:

Subnitrate of bismuth, White of egg,	each	grains 15
Gum arabic		" 45
Glycerin		" 5
Mucilage		" 1

Make ten bougies from 7 to 10 ctm. long.

Iodoform, sulpho-carbolate of zinc, corrosive sublimate, and nitrate of silver are also used, in amounts varying from one-sixtieth of a grain (of the sublimate) to two grains.

RESORCIN.—Cattani ("Monatsh. f. prakt. Dermatol") recommends an ointment composed of from 15 to 30 grains of resorcin to 2½ drams of vaseline. He reports cases of epithelioma of the skin, bedsores, diphtheritic inflammations, etc., which were much benefited by the use of the ointment. When wounds of the skin are dressed with a one per cent. solution of resorcin they heal rapidly without suppuration, and with little tendency to the formation of scars.

PEROSMIC ACID IN THE TREATMENT OF NEURALGIA.—Frankel ("Berlin. klin. Wochnschr.;" "Practitioner.") states that he has made numerous experiments upon animals with perosmic acid to determine the exact effect of deep injections of the drug, as recommended for the cure of neuralgia. Severe local inflammation took place, resulting in extensive degeneration of the nerves and muscles, and the influence of the remedy upon neuralgia was inferred to lie in the fact that it exercised a direct action upon the medulla of the nerve. Caution is advised in its use.

A COMBINATION OF BROMIDES FOR EPILEPSY.—Erlenmeyer (Centralbl. f. Nervenheilk.;" "Centrabl. f. die ges. Ther.") recommends the following formula:

Bromide of ammonium		grains 30
Bromide of potassium, Bromide of sodium,	each	" 60
Water		ounces 24

The whole is to be given in the course of twenty-four hours.

It is said that the use of this mixture does not cause bromism, even acne not having been observed under its action, and that its control over the attacks is very decided.

FIBRIN-PEPTONE.—M. Grehant ("Progr. med.") uses this preparation as an artificial food. Its composition is as follows:

Pepsin	grains 30
Hydrochloric acid	" 60
Fibrin	ounces 3
Water	" 32

It is to be given by the mouth.

A RESOLVENT OINTMENT.—M. Mallez ("Union med.") gives the following formula;

Iodide of lead		grains 75
Iodide of potassium, Extract of belladonna,	each	" 30
Extract of opium		" 8
Lard		drams 12

This ointment is recommended for use in cases of orchitis, to be applied night and morning, also applied along the course of the urethra, to promote the absorption of surrounding deposits in cases of gonorrhœa.

TANNATE OF QUININE is obtained by dissolving sixty grammes (900 grs.) tannic acid in eleven grammes (3 drachms) of water, without heat, and adding eleven grammes (3 drachms) of a two per cent. solution of sodium bicarbonate, and enough water, if necessary, to make a clear solution. To this solution (Am. Jour. Pharm. Nov.) is added a solution of forty grammes (600 grs.) quinine sulphate in twenty-seven grammes (7 drachms) of dilute sulphuric acid and eleven grammes (3 drachms) of water. The precipitate is washed on a linen strainer until the washings cease to have an alkaline reaction; it is then dried and powdered. Tannate of quinine prepared thus, is almost tasteless, contains about thirty-three and one-third per cent. of quinine, and is cheaper than the commercial article, frequently containing much less.

MEDICATED COTTONS.*

ANTIRHEUMATIC COTTON.

Oil of birch, oil of turpentine, oil of Juniper wood, oil of rosemary, oil of cloves, of each	grams 3
Camphor	" 5

Dissolve in 80 grams of alcohol, filter the solution and moisten 2,000 grams of purified cotton by any convenient method with it; the cotton should then be picked to bring the solution into contact with all its parts; finally dry in the air for one hour and preserve in waxed paper.

AROMATIC COTTON.

Oil cloves	grams 5.0
Alcohol	" 75.0
Tincture benzoin	" 20.0
Oleo-balsamic mixture P. G.	" 10.0
Purified cotton	"2000.0

Dissolve the oil of cloves in the alcohol and add the tincture of benzoin and balsamic mixture, filter and moisten the cotton by any suitable means, picking it into thin layers and inverting them often during the impregnation. Finally dry in the air for one hour and preserve in waxed paper.

IODIZED COTTON.

Iodine, pure	grams 10
Purified cotton	" 100

Rub the iodine to a fine powder and sprinkle it on the cotton, previously inserted into a wide-mouthed bottle. Warm the whole by placing the bottle in warm water, removing the cork occasionally to allow the escape of air, but cork again immediately, and continue the heating until all the iodine has become vaporized and the cotton thoroughly impregnated; then remove the cotton and put it in a cool place. The iodine will condense in finer particles in the fiber if cooled quickly, than if allowed to crystalize slowly.

STYPTIC COTTON.

Solution of chloride of iron	grams 60
Alcohol	" 60
Purified cotton	" 40

Mix the solution of chloride of iron with the alcohol and saturate the cotton with the mixture. Exclude the light while drying and preserve in amber glass bottles.

CEMENTS AND LUTINGS.

FOR PORCELAIN, MARBLE, ALABASTER, GLASS, ETC.

(1) Ten grams of burnt lime are powdered in a mortar and rubbed with 25 grams of fresh white of eggs to a smooth paste. Dilute with 10 grams of water and mix with 55 grams plaster of Paris, when it is ready for use.

(2) One hundred grams of fresh casein are well rubbed in a mortar and mixed with sufficient water glass to give the consistence of honey. It should be preserved in a wide-mouth container. It is transparent, not water tight, but is convenient for use and keeps well.

FOR MEERSCHAUM.

Five grams of burnt magnesia are mixed with the above luting.

FOR PAPER FABRICS, LEATHER, ETC.

Five grams of borax are dissolved in 95 grams of water and enough casein added to produce a liquid of the consistence of honey.

*From Dietrich's Manual.

FOR HORSE-HOOFS.

Ammoniac	grams 30
Turpentine	" 10
Gutta percha	" 60

The first two are melted by means of a water bath, and added to the gutta percha, previously melted, with constant agitation.

When used the cement should be softened in hot water and pressed in the hoof crack, which has previously been well cleaned. If a black color is desired, two grams of lamp black is mixed with the turpentine before the other ingredients are added.

CEMENTS FOR LEATHER—LEATHER ON WOOD, METAL, ETC.

Twenty grams of gutta percha are dissolved in 50 grams of bisulphide of carbon and 10 grams of oil of turpentine. To this add 20 grams of pulverized asphalt. In a few days the mass becomes homogeneous, and if to fluid may be evaporated to the consistence of honey upon cooling. The parts of the leather to be cemented should be freed from oil or grease with benzin.

FOR IRON APPARATUS.

Powdered iron	grams 85
Sublimed sulphur	" 10
Chloride of ammonium	" 5

The ingredients are rubbed with sufficient water to form a thick mass, and applied to the parts, previously well cleansed. After eight days the luting becomes as hard as iron, withstanding any temperature, and serviceable for mending distillatory apparatus.

FOR JACKETED STEAM-KETTLES, ETC.

Litharge	grams 85
Boiled linseed oil	" 15

Rub together in a warmed mortar until a plastic mass results.

FOR BLASTS, RETORTS, ETC.

Lime, powdered and sieved	grams 60
Rye flour	" 30
Bran	" 10

These are mixed and moistened, then stirred until an easily-kneaded mass is made.

TO CEMENT PAPER TO TIN.

Mucilage, gum Arabic	grams 95
Glycerin	" 5

Mix the two. The tin must be cleaned before applying.

MOCKING BIRD FOOD.—Mr. Emil Dreier, of Chicago, states (Drug Circular, 1877) that all birds which naturally feed on insects, must be furnished with food containing some kind of meat. Mocking birds, thrushes, and all other insect eaters thrive well on the following:

"Dried ox heart, poppyseed cake, bread dried in the oven, dried ants' eggs, of each one pound. Hemp seed, corn meal, lard, of each one half pound."

Grind to coarse powder, and mix with the melted lard. When served out to the birds, mix with equal parts of grated carrots.

IN CHILBLAINS.—The use of local baths of a mixture of sulphuric acid and water, in the proportion of a liquor-glass of the acid to a quart of water, is recommended. They should be used twice a day, ten minutes at a time. At first they cause a little tingling, then a sensation of warmth, and finally a feeling of comfort. The method is not contra-indicated by ulceration.

Correspondence.

AN "OPIUM" INTERVIEW.—A FANCIER PHARMACIST.—DR. OLDBERG'S METRIC CONVERSION.

Not without interest to all *pharmacists* (druggists barred) was a two-column article printed in the Indianapolis *News* some days since. The article referred to was an interview with a local "pharmaceutical" editor on the opium habit, wherein he defended the sale of opium, and took the ground that the poison, far from being pernicious—as learned physiologists, moralists, etc., have long taught—was most beneficent and salubrious as an article of habitual use. The erudite gentleman stated that he had observed that opium eaters were singularly free from disease; that they generally passed unscathed through epidemics, etc., in a word that opium habitually used was an excellent prophylactic. He also related two incidents to prove how the moral nature was also lifted up; how truth, sobriety, honesty, purity were exalted and intensified by habitually ingesting poison, benumbing physical sensibility, forcing sodden sleep, and inducing most unnatural imaginings, and diseased fantasies.

With exceptions not material the entire testimony presented by the editor (also druggist) was simply that of a miserable man who got credit from the former for opium and cigarettes, and after a long time returned, paid the bill, and gave his history during the interim. He related how he awoke from an opium stupor (excuse me, a morally exalting opium unconsciousness) to find himself working in a freight depot at Louisville; how he gradually arose to an excellent position, and how finally he had gotten back to Indianapolis and was able to relate so interesting an incident, which he poured into eager and gullible ears.

I have long felt that some druggists would certainly be much obliged for a new idea; a suggestion as to what else they could add to their stock and by its sale realize well. Jewelry? No, it isn't jewelry, although The WESTERN DRUGGIST has advertisements offering great inducements for Ph. G.'s to embark in the trade. A new chewing gum? No, not a new chewing gum! Caramels with your name stamped on each one? No: you will never guess; it's chickens. Yes, sir, chickens, real live barn-yard chickens. I got the idea in a live Hoosier town, it happened "thusly:" Walking along the streets of said town I espied a drug-store, finely appointed, the equal in appearance of a Philadelphia pharmacy. Cut-glass globes within the show windows surrounded by bottles of patent medicines, lanterns and pyramids of wooden toothpicks, bore out the declaration just made. On the sidewalk to the left of the entrance stood a neat bright wire chicken-coop; behind its silvered bars were a cock and two hens. These birds were not of common blood, no indeed. The sanguinary fluid that filled their circulatory systems was not of the kind found on every Hoosier dung-hill. Was it possible that these feathered bipeds were on sale by the druggist? Yes, sir! there was the same name on the coop that prevailed over the entrance with the proud title of pharmacist appended. I entered "the Pharmacy," inquired if a prescription was necessary to procure blooded chickens there, and being informed in the negative, the price per ℥. was asked. "I want $12 for that cock and them two hens," the druggist said. I didn't buy, but sadly strolled away, and regretted afterward that I neglected to get all the compounding and dispensing points. Suppose, now, the pubic were educated to demanding not only their blooded game chickens from us druggists, but also come to us to buy them plucked and eviscerated ready for the gridiron or frying-pan, isn't it plain that we could make money at it?

It would be quite as appropriate for druggists to handle chickens as to handle candy and toys; but hold! it occurs to me that the manufacturing pharmacist would soon "get onto" the idea, and go to furnishing us chickens sugar-coated or in the elixir form, and, being opposed to this, I withdraw my advocacy.

Prof. Oldberg's "flop" interests us Indiana druggists, several hearts being made litre. "I don't care a cent or gramme," said one gentleman about it. He may kill our gramme if he can, but parts per hundred are entirely too convenient, firmly established and practicable to be easily swept away, and the decimal system is by far the most applicable to percentage expression. It certainly is very convenient and desirable to dispense by fluid measure, but surely there is nothing to prevent us doing so, even though our officinal formulas are expressed in per cents. Prof. Oldberg's advocacy of the variable, uncertain, unreliable drop, as an accurate measure, is a matter of surprise. That it is "familiar and convenient," is true, but these qualities are not sufficient to offset the advantages of accuracy.

Prof. Oldberg says: "Any quantity less than a drop would clearly be an impracticable unit." A drop of what? Water? All drops of water are not the same size and weight. Under certain conditions 34 drops of water have been found to make a f. ʒ., and under still others 65 have been required to make up the same measure. The size of drops of different liquids bear no relation to each other, and even drops of the same liquid, when dropped from different containers, have no uniformity, no relationship in size or weight. Why, then, talk about a drop as a unit of weight or measure? Accuracy can make no use of the drop, but carelessness can.

Progressive sub-divisions by us into smaller unit without fractions so as to be able to say $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$, $\frac{1}{16}$, $\frac{1}{32}$, $\frac{1}{64}$, etc., has no advantage over $\frac{1}{10}$, $\frac{2}{10}$, $\frac{3}{10}$, $\frac{4}{10}$, $\frac{5}{10}$, $\frac{6}{10}$, $\frac{7}{10}$, $\frac{8}{10}$, etc. Indeed, no mind can work the former with near the ease it can the latter. If one desires to say $\frac{1}{4}$, why will not .5 answer? If $\frac{1}{4}$ of this be required .25 expresses the idea as perfectly as $\frac{1}{4}$ does. Multiplying by a decimal is far the easier and most accurate way of calculating the fractional part of one hundred.

Upon the fixing of a weight unit, Prof. Oldberg says: "The nearer approach then to a drop of water would be *about* one grain. The Metric system has nothing to offer but the decigram, equal to about one and one-half grain." A drop of water dropped from lips of different thickness and containers of different size will as frequently weigh a decigram as one grain; therefore, as a premise, the statement has no force.

The learned professor inveighs agains the Metric system because it is "so hazardous by reason of its unavoidable decimal fractions and decimal point." In our monetary system no mistakes are made, and yet it is decimal. Cannot we expect as great accuracy in matters appertaining to life and death as in matters appertaining to dollars and cents? The decimal point objection is not valid.

The most surprising statement in this most remarkable article, is that one wherein it is declared that "even if our present apothecaries' weights and measures should remain

unchanged, they are to be preferred to the Metric system, because they are so nearly *what they ought to be.*" The reasoning and the premise upon which the reasoning is based, by which this ipse dixit is is reached, are omitted. "Whatever is, is right," would be a most admirable starting point from which to draw such a conclusion. In my opinion this statement that "they are so nearly what they ought to be," is the product of the same kind of reasoning which advances the variable drop as an excellent unit; accuracy being abandoned for the sake of convenience and familiarity.

The Professor fails to project a system of linear measurement commensurable and parallel with the minim and grain system. How is this to be managed? If we want something familiar and convenient, why not take a minnow as a unit? He starts with the minim for weights and measures, and the similarity in sound prompts the suggestion of the minnow. Now minnows "are exactly what they ought to be," and they are "familiar" too. Just the thing wanted. We could then have any familiar convenient numbers; say, seven or eleven, then:

Seven U. S. minnows — 1 U. S. sucker.

Eleven U. S. suckers — 1 U. S. mullet.

In regard to our measuring and dispensing in graduates, it is certainly true, that a more bungling and inaccurate method it would be hard to invent. Buy a dozen, pint or one-half pint graduates of a wholesaler, test, and compare them. The result of the test astounds, and as for the comparison,—'twould open your eyes wide. But you say: "Accurate graduates can be gotten, and the objection is not good." True, they may be gotten, but they are not gotten by dispensers, as a rule, care in this respect being an exception.

Even though you have accurate graduates, make some comparative measurements with those of different capacities. Take a four-ounce and an eight-ounce graduate—let both be accurate—in the usual off-hand way measure, say one-half ounce of water in each, and weigh. Will the two half ounces weigh the same? Not by considerable. The process is "convenient and familiar," but accuracy is as far away as the time when pharmacists will no more be tradesmen.

J.

INDIANAPOLIS, Jan. 4, 1886.

(Editor of the Western Druggist.)

To prevent errors in dispensing prescriptions, should the physician write ounce instead of drachm, or otherwise make a mistake in the quantities, it may be readily discovered when filling the prescription by computing whether or not the limited dose has been exceeded. This may, however, be of more service to the less experienced, who would not be so apt to recognize a mistake as those thoroughly familiar with dispensing. Whereas, not remembering exactly the dose of a medicine, or being rushed with business, the mistake might be entirely overlooked until too late for correction.

There are exceptions to all rules, but I deem this a good rule without saying anything about exceptions, if any. However, should any one know of a better way let them communicate the same, or in its absence follow this, as I do, believing that mistakes will be few and far between when this course is pursued.

Yours respectfully, G. E. OVERMAN.

BROOKLYN, IA., Dec. 26, 1885.

A CORRECTION CORRECTED.

(Editor of The Western Druggist.)

My attention has been called to the letter in your recent issue signed by Mr. Noyes, of St. Paul, entitled "A Correction," wherein he says the next convention of the National Wholesale Drug Association will not be in Minneapolis, but in "the sister cities near St. Anthony," and that "St. Paul expects her full share of the pleasure and burden of such a convention," etc. Permit me to say, the next convention of the association named will meet, pursuant to call, in *Minneapolis*, the third Wednesday of September, 1886.

The honor and pleasure (we do not admit any burden) of entertaining the members of the association will be shared by the "sister cities," but the convention will be held in Minneapolis, as correctly stated by you.

Respectfully yours, J. C. ELIEL.

PRESIDENT SAYRE ON THE N. W. D. A. RESOLUTIONS.

(Editor of the Western Druggist.)

The resolution passed by the N. W. D. A. at its last meeting in Philadelphia seems at last to be reaping a reward that should have been forestalled before its passage.

President Kline has seen fit to defend the action of his association, and his arguments would seem to invite a statement from the retail side of the house.

The resolution in question was the outgrowth of a letter read before the association by a prominent Boston jobber, calling attention to the fact of the existence of an incorporated company in the city of Boston under the name of the "Suffolk Drug Company," the business of which company was the purchase and sale of medicines.

That there is anything wrong in this I fail to see. Jealousy would seem to be the cause for the complaint, and to explain this let us look at the interests involved.

The complaint is made by a member of a firm who was among the first to write to the cutters in New York and vicinity (when the jobbers of New York refused to fill further orders for them), offering to "fill all orders for goods they might need at the wharves in New York without extra charge," giving as a reason for this offer the fact of their being cut by the New York jobbers, while on the other hand the corporation was represented as being composed of reputable retail druggists.

No claim was made that goods were sold below rebate prices, but the statement was to the contrary that "rebate prices were strictly kept," the complaint being based entirely upon the fact that the members of this firm (or corporation) divided the profits among themselves. Certainly a grave charge, for it would seem as if the other firm did not have any profits to divide; otherwise, how could they blame others for doing what they did themselves?

These are facts developed at the meeting. The letter was referred to the Committee on Proprietary Medicines. At the next session the gentleman from Boston brought the matter up again, and the chairman (after requesting him to meet the committee) reported the resolution in question. The association evidently wanted nothing to do with it, as it passed without argument, every one seeming willing that Mr. Boston should have all the credit.

That the N. W. D. A. should allow itself to be used in the way in which it was, is certainly to be regretted. No cause was shown but local jealousies, with which it has nothing to do—things which should remedy themselves, the result probably being "the survival of the fittest."

That the rebate plan is valuable to the large dealer is plain to every one, and also that its extension to the smaller ones is the most feasible plan yet proposed for the relief of the entire trade. Still the question arises, Can the N. W. D. A. afford to take the ground that no new jobbing houses shall come into existence? Assuming to answer this in the negative, I would also say that they are not prepared to say a new one shall not start in the city of Boston.

Respectfully, EDWARD A. SAYRE.

BROOKLYN, N. Y., January, 1886.

Botany and Microscopy.

PROF. ASA GRAY.—This veteran botanist attained his seventy-first birthday on the 18th of November last. On the morning of that day he was made the recipient of an elegant silver vase, beautifully decorated with floral designs, a tribute of love and respect from American botanists. It bore the following inscription:

"1810, November eighteenth, 1885.
Asa Gray,
in token of the universal esteem of American botanists."

Accompanying the vase was an elegant silver plate with the following inscription: "Bearing the greetings of one hundred and eighty botanists of North America, to Asa Gray, on his seventy-first birthday, November 18th, 1885." The plate contained letters from those who had contributed toward the gift, and these letters no less than the gifts themselves testify to the deep affection and regard in which Prof. Gray is held by the botanists of this country. It is only to be regretted that many botanists who would have been glad to contribute to this memorial did not have the opportunity to do so.

DISSECTING NEEDLES.—These useful appliances may be conveniently made as follows: Obtain some No. 5 sewing needles and the handles of some common penholders, or other cylindrical pieces of soft wood. Seize one of the needles near the middle with a pair of flat-jawed pincers and force the needle head first into the end of one of the sticks. This can be done with ease, and even hard wood, like oak or walnut, may be used instead of soft wood, if it is straight-grained.

FORCEPS FOR MICROSCOPIC WORK.—Good forceps for microscopic work, according to Prof. Coulter, are "Dental forceps," made of steel or brass, and nickel-plated. They cost from 15 to 40 cents. Ordinary forceps are condemned as coarse and awkward. But forceps, however delicate, should never be used for picking up thin sections. These should be handled either with a delicate camel's hair brush or by means of flattened and flexible pieces of metal slipped under the section. Such an instrument may readily be made as follows: Take a piece of soft copper wire of about the diameter of an ordinary knitting needle and about five inches long. By means of a hammer and a smooth piece of iron flatten about an inch and a quarter of one end of it, and bend this portion slightly. After smoothing off the irregularities at the end of the flattened portion the instrument is complete. It answers perfectly the purpose of picking up a thin section from a shallow dish and transferring it to a glass slip.

THE CORPSE PLANT.—Every one familiar with our northern woods has seen the curious Indian Pipe or Corpse plant, Monotropa uniflora. It has acquired the latter of its two common names from its whiteness, stem, leaves, and floral envelopes, all being colorless and entirely destitute of chlorophyll. It has heretofore been regarded either as a parasite or saprophyte, but from the investigations which Kamienski has given to the European form, Monotropa hypopitys, it seems probable that both of these views are incorrect. The roots were examined and found not to possess the peculiar hausteria or sucking organs of parasites. Moreover, it was ascertained that the root cells which were in contact with the soil were dead and incapable of absorbing nutriment from it. But closely adhering to and enveloping the roots was found the mycelium of a fungus. This branches freely and forms a pseudo parenchymatous envelope often two or three times the thickness of the epidermis itself and is best developed at the apex of the root. This mycelium does not penetrate into the living cells, though occasionally its branches pass between them. It cannot therefore be properly regarded as a parasite on the plant. This fungus he finds is invariably present and is necessary to the life of the Monotropa, and he believes the plant derives its nourishment from the soil through the medium of the fungus mycelium. He regards it as an instance of symbiosis, such as commonly occurs among low forms of animal life.

RINGS IN TREES AS INDICATIVE OF AGE.—Prof. Penhallow has been investigating the relation of the rings of growth of exogenous trees to their age, and he reaches the same conclusions as those now generally accepted by botanists, viz.: That the formation of rings is due to alternating periods of physiological activity; that in cold climates they are an approximate, though not always an absolutely correct, index of age; and that in warm climates there is a tendency to obliteration of rings and homegeneity of structure, and therefore unless there be regularly alternating periods of growth and rest, as is the case in some hot climates where a dry season regularly succeeds a wet one, little dependence can be placed on the numbers of rings as an index of the age of the tree.

BINOCULAR MICROSCOPES.—Mr. E. M. Nelson writes as follows regarding binocular microscopes: "Binoculars give less critical pictures than monoculars, for the very good reason that half an objective will not perform so well as a whole one. All prisms are defective; therefore the image in the left tube is worse than that in the right. The image in the binocular, therefore, consists of an indifferent picture in the right hand tube, and a worse one in the left. Observers put up with this for the sake of the stereoscopic effect which is gained at the cost of a critical image." He claims also that opticians take little pains to send out binoculars that are in perfect adjustment and hence the defects are often much worse than they need be.

CARMINE STAINING FLUIDS.—The following recipes for preparing carmine staining fluids are published in the Journal of the Royal Microscopical Society. The methods of preparation are those of Sig. G. Archangeli:

1. Boil together 100 grams distilled water, 4 grams boric acid, and 50 centigrams of carmine for about ten minutes, and filter while tepid.

2. Boil together for about ten minutes 100 c. c. of a saturated solution of alum, 2 grams of boric acid, and 25 centigrams of carmine, and filter.

3. Boil together for about ten minutes 100 c. c. of a saturated solution of alum, 25 centigrams of carmine and 25 centigrams salycilic acid, and filter.

All are said to work very satisfactorily. The nuclei of animal and vegetable cells are thoroughly stained after soaking about 24 hours in either of the solutions.

QUERIES.—Mr. W. H. Bulloch propounds the following questions for microscopists to answer, to which we should be pleased to receive replies: First, what is the magnify-

ing power of an inch lens at ten inches between the object and lens?

Second. What is the formula of a two-inch eye-piece as used in the microscope, not in the telescope?

Third. What is the magnifying power of a two-inch eye-piece ten inches between the object and diaphragm?

Fourth. Are there fifty microscopes in this country furnished with two-inch eye pieces?

Fifth. What is the length of a ten-inch tube?

The questions are not so easy to answer as they seem.

DISSECTING MICROSCOPES.—A cheap and yet efficient dissecting microscope is an important instrument to the student of botany and materia medica. Prof. Bessey describes such an instrument in the December number of the Botanical Gazette. "Into a block of wood of suitable size fix upright a short piece of stiff wire or rod having a smooth surface. Bore a bole in a fine-grained cork a little to one side of the center, so that the cork will slide smoothly on the rod. Bend one end of a smaller wire into suitable shape to hold whatever lens is at hand, and make a hole of proper size in the cork at right angles to the first. This arrangement gives ample and smooth movements of the lens in any direction for adjustment. The plan may be elaborated to any desired extent. If the rod be fixed in a plain piece of board, dissecting may be done on a piece of glass laid flat on the board. Pieces of black or white paper underneath will give the backgrounds against which any object may be seen. For dissecting in liquid a deep individual butter plate answers well. If one desires some transmuted light, the object may be dissected on the bottom of an inverted tumbler which has a smooth concavity. Sloping blocks may be placed at the sides for hand-rests. Still better illumination may be had by fixing two such blocks, one on each side of the upright rod and placing between them a strip of mirror glass inclined at an angle of 30° to 45°. In fact, with a little ingenuity and mechanical skill one may construct a stand for dissecting which will equal in efficiency any of the simple microscopes offered for sale. Of course the lenses must be bought. They may cost any sum the purchaser chooses, from 25c to $10. The most convenient powers are an *inch* and a *half-inch*, magnifying respectively ten and twenty diameters. If one already has objectives for a compound microscope, nothing better can be got."

The December number of the Botanical Gazette (a very ably edited botanical magazine, by the way, which is heartily commended to all who are interested in botany) is appropriately called "The Laboratory Number." It contains a well written paper by Mr. J. C. Arthur, giving a description of some "Botanical Laboratories of the United States." The laboratories described are those of Harvard University, Cornell University, the University of Pennsylvania, Michigan Agricultural College, Iowa Agricultural College, Wabash College, Purdue University, the University of Wisconsin, the University of Nebraska, and the laboratory of the Shaw School of Botany in St. Louis.

It also contains a timely article by Prof. John M. Coulter on Laboratory Appliances. This paper embodies information obtained "from some of our principal laboratories either by correspondence or by personal inspection," and describes the microscopes and other appliances that are regarded as essential to botanical laboratories where pupils are to be trained in microscopical investigation. Many of the hints given are exceedingly valuable.

In the same number is also published a description by Dr. Howard Ayres, of Prof. De Barry's laboratory, at Strassburg, which was built at a cost of $130,000, an article on "Laboratory Instruction," by Prof. John M. Coulter and one on "Section Cutting," by Dr. T. J. Burrill.

It would be difficult to find anywhere else in so small compass more really valuable information on the subject of botanical microscopy.

Dr. R. L. Maddox has been making further experiments on feeding Koch's "comma" bacillus to insects and he reaches the conclusion that these microbes can pass, in a living state, through the bodies of insects. Insects may therefore become carriers of contagion, and supposing Koch's view that the comma bacillus is the cause of cholera be correct, house-flies, mosquitoes, etc., may be important agents in spreading the disease during epidemics.

THE BRAND-HAGER remedy for acute coryza, or catarrh, consists of:

Carbolic acid	grains	80
Alcohol	drams	4
Liquor ammonia	minims	80
Distilled water	minims	154

A sponge is saturated with the liquid, placed within a paper cone, and the vapor inhaled through the nostrils.

PAPER and leather is made very pliable by soaking in a solution of one part acetate of sodium or potassium in four to ten parts of water, and drying.

FORTY PARTS of paper pulp, ten parts of water, one part of gelatin, and one part of bichromate of potassium with ten parts of phosphorescent powder will make a paper luminous, suitable for labels, signs, etc.

FOR COPYING printed matter, dampening the surface with a weak solution of acetate of iron, and pressing in an ordinary copying press, is recommended. Old writing may also be copied un unsized paper, if wetted with a weak solution of sulphate of iron, mixed with a small quantity of solution of sugar.

We can prove with mathematical certainty that as much flour as can lie on the point of a table knife is more nutritious than eight quarts of the best Bavarian beer; that a person who is able daily to consume that amount of beer, obtains from it in a whole year, in the most favorable case, exactly the amount of nutritive constituent which is contained in a five-pound loaf, or in three pounds of flesh. —Baron Liebig.

OZONE IN THE TREATMENT OF CHRONIC NERVOUS AFFECTIONS.—M. Eyselein ("Arch. de neurol.") believes that ozone has a specific action in several nervous diseases. The effect of ozone seems to be sedative as well as hypnotic.

BROMOFORM AS AN ANÆSTHETIC.—According to Bonome and Mazza ("Centralbl. f. chir.") bromoform is a general anæsthetic, slower in its action than ether and chloroform, but otherwise closely resembling them. There is no preliminary stage of excitement, respiration is not affected, nor do nausea or vomiting occur during recovery. The quantity required is less than that of chloroform, and the patients recover more rapidly. Given by the mouth it acts as a hypnotic. The bromides of ethyl and ethylene are less safe and efficient than bromoform.

COCAINE IN THE TREATMENT OF GONORRHŒA.—At a recent meeting of the New York Medical and Surgical Society Dr. George A. Peters mentioned that he had lately injected a solution of hydrochlorate of cocaine into the urethra, for the relief of chordee, and that it had not only accomplished that purpose, but also decreased the discharge so decidedly that the patient subsequently continued its use on that account.

Societies and Colleges.

BULLETIN OF PHARMACEUTICAL ASSOCIATIONS.

For information upon any subject relating to the affairs of any association, address the Secretary. For information regarding commercial exhibits, address the Local Secretary at the postoffice designated as the place of meeting. Blanks in the table will be filled out on receipt of the required information, which we shall be pleased to receive from the Secretary or other officer, together with correction of any errors. Will the Secretaries of State Boards of Pharmacy kindly furnish us with a list of officers and members of their respective Boards at their earliest convenience?

PH. ASSOCIATION.	PRESIDENT.	SECRETARY.	TREASURER.	PLACE AND TIME OF MEETING.	LOCAL SECRETARY.
Am. Phar. Asso.	Jos. T. Roberts, Baltimore, Md	J. M. Maisch, Philadelphia	C. A. Tufts, Dover, N. H.	Providence, R. I., Sept. 7	W. B. Blanding
N. R. D. A.	E. A. Sayre, Brooklyn, N.Y.	J. W. Colcord, Lynn, Mass.	F. H. Massi, Norfolk, Va.	Providence, R.I., Sept. 6	.....
N. W. D. A.	M. N. Kline, Philadelphia.	A. M. Merriam, Minneapolis, Minn.	S. M. Strong, Cleveland, O.	"Minneapolis-St. Paul," Sept. 21	.....
STATE ASSOCIATION.					
Alabama	.....	P. C. Candidus, Mobile	.....	Birmingham, May 11	G. M. Bains
Arkansas	.....	J. B. Bond, Little Rock	.....	Little Rock, April	.....
California	.....	Chas. Troppman, San. F.	.....	.....	.....
Connecticut	J. K. Williams, Hartford.	F. Wilcox, Waterbury	G. P. Chandler, Hartford	New Haven, Feb. 2	Romanta Wells
Delaware	.....	.....	.....	.....	.....
Florida	.....	.....	.....	.....	.....
Georgia	H. G. Hutchinson.	W. S. Parks, Atlanta	.....	Savannah, April 18	.....
Illinois	T. H. Patterson, Chicago.	T. N. Jamieson, Chicago	B. F. Gardner, Atlanta	Rockford	J. R. Porter
Indiana	August Detzer, Ft. Wayne.	Jos. R. Perry, Indianapolis	Emil Martin, Indianapolis	Lafayette (date	David Hilt
Iowa	C.R.Wallace, Independence	E. L. Boerner, Iowa City	C. H. Ward, Des Moines	Des Moines, Feb. 10	A. H. Miles
Kansas	H. W. Spangler, Perry.	John T. Moore, Lawrence	C. D. Barnes, Abilene	Emporia June 9	D. W. Morris
Kentucky	H W. Evans, Danville.	J. T. Cook, Harrodsburg	J. J. Brooks, Richmond	Bowling Green, May 5	W. Turner
Louisiana	.....	Mrs. E. Rudolph, N. O.	.....	New Orleans, April 21	.....
Maine	.....	.....	.....	.....	.....
Maryland	.....	M. L. Byers, Hagerstown	.....	Annapolis, June 1—	.....
Massachusetts	Frank M. Pease, Lee	J. W. Colcord, Lynn	F. H. Butler, Lowell	Boston, June 2—	Henry Canning
Michigan	H. J. Brown, Ann Arbor.	Jacob Jessou, Muskegon	Wm. Dupont, Detroit	Grand Rapids, Oct. 12	Wm. L. White
Minnesota	S. W. Melendy, Minne'lis	W. S. Getty, St. Paul	J. C. Hening, Stillwater	Minneapolis, June 9	.....
Mississippi	J. P. Finlay, Greenville	H. F. West, Fayette	W. R. Brenning, Natchez	Jackson, May 18	.....
Missouri	A. T. Fleischman, Sedalia	G. H. C. Klie, St. Louis	J. M. Good, St. Louis	Sweet Springs, June 15	.....
Nebraska	H. D. Boyden, Grand Island	F. P. Zimmer, Grand Island	C. F. Goodman, Omaha	Omaha, May 11	C. J. Daubach
New Hampshire	.....	.....	.....	—— Oct.	.....
New Jersey	W. M. Townley, Newark	R. H. Van Sant, Trenton	Wm Rust, New Brunswick	Newark, May 19	.....
New York	T. J. Macmahan, New York	C. W. Holmes, Elmira	C. H. Butler, Oswego	Rochester, June 8	C. H. Harkin
North Carolina	.....	J. C. Munds, Statesville	.....	Fayetteville, Aug. 11	B. E. Seaberry
Ohio	W. M. Melville, Sandusky	L. C. Hopp, Cleveland	Chas. Huston, Columbus	Springfield. June 2	Chas. Ludlow
Pennsylvania	C. T. George, Harrisburg	J. A. Miller, Harrisburg	J. L Lemberger, Lebanon	Lebanon, June 8	J. H. Redsecher
Rhode Island	Wm. K. Reynolds	H. I. Leith	John E. Potter	Providence, January	.....
South Carolina	.....	P. Wineman, Charleston	.....	.....	.....
Tennessee	.....	.....	.....	.....	.....
Texas	G. Kalteyer, San Antonio	Dr. G. Rice, San Antonio	E. W. Lancaster, Marshall	Dallas	G. A. Eisenlohe
Vermont	.....	.....	.....	.....	.....
Virginia	J. W. Thomas, Norfolk	E. R. Beckwith, Petersburg	F. H. Masi, Norfolk	Alexandria, May 11	E. Warfield
West Virginia	.....	C. Mœnkemoller, Wheeling	.....	Wheeling, June 8	.....
Wisconsin	F. F. Prentice, Janesville	E.B.Helmstreet, Janesville	W. P. Clarke, Milton	Tuesday, Aug. 10	F. M. Givens

EXECUTIVE COUNCIL C. R. D. A.

The regular quarterly meeting of the Executive Council of the Chicago Retail Druggists' Association convened at the Sherman House club room Jan. 8, nearly every ward being represented. Upon motion, the official title of the body was changed from the "Central Committee" to the "Executive Council."

D. R. Dyche, from the Committee on Trade Interests, made an oral report on the subject of substituting special druggists' brands for the proprietary fancy goods sold at cut prices by general dealers. He was enthusiastic in his advocacy of the plan as being the only one calculated to meet the emergency. The factotum stores were daily encroaching more and more upon the natural territory of retail druggists. A leading grocer had rented a large store on Wabash avenue, where he proposed to put in an assortment of patent medicines to be sold at "popular" prices. Mr. George Buck, the speaker said, had suggested that the way to provide special druggists' preparations and sundries which should be kept out of the maw of outside cutters, was to organize a corporation composed of retail druggists, this company to own the trademarks on and other rights in such goods, and to have charge of the work of distribution. While he was not yet quite prepared to indorse this plan, one fact was certain—the druggists have it in their power to be masters of the situation. Their recommendation of certain goods would affect their sale to the exclusion of others. Let them push goods controlled by themselves. This is the way to help the trade.

Mr. Ebert said Messrs. Kirk & Co. and Allen B. Wrisley were ready to supply retail druggists with special brands of toilet soaps and perfumery. As regards patents, the way to keep them in the hands of druggists was to have a State law enacted requiring registration of their ingredients. This would bring them within the pale of "medicines," and hence within the provisions of the pharmacy act.

Mr. Hubachek said it was worthy of note that many of these "cutters" sold spurious goods. Their "cheap" pretensions could frequently be punctured by exposing the frauds.

Mr. J. P. Lee believed in the practicability of the special brand plan. He had his individual brands in certain lines and they were in every respect a success.

Mr. E. O. Gale did not favor the corporation idea, but knew that special brands were a success. The experience of his firm confirmed its advantages as proven by the fact that their sales of toilet soaps of their own brands exceeded their entire trade in other soaps combined. He suggested that valuable data might be gained if all druggists would send samples of their special brands, with cost, to the Chairman of the Trade Interests' Committee.

J. G. Schaar was in favor of a general State trade organ-

ization. Druggists should in any event keep a firm grip on all trademarks pertaining to their special brands. Otherwise, so soon as manufacturers saw that the goods had become popular through the efforts of druggists, and should conclude that other dealers should share in the advantage, they would paraphrase the railway magnate's utterance with " Druggists be d—d."

H. W. C. Martin emphatically protested against any dallying policy. The way to meet the cutters was to meet their prices. Fight them with their own weapons. It was the relatively high prices of druggists which was driving away their trade. Let the trade be brought back by attractive prices, and then the plan of special brands would be in order.

F. A. Druehl remarked that the non-central druggists did not find it necessary to cut prices.

Mr. Martin inquired if he sold as many toilet goods as formerly, to which Mr. Druehl replied in the negative.

At this point Mr. Dyche moved that when the council adjourn, it adjourn to such time as the Trade Interests Committee should be ready to report. Carried.

On motion of J. B. Kerr, the Committee on Ward Unions was instructed to effect an organization in the several wards not yet organized.

A resolution indorsing the propriety "of meeting the prices of dry goods and other dealers on toilet goods and fancy articles," was discussed with spirit. Though the general sentiment was that the time had gone by when a druggist, who in self-defense fought cutters with their own weapons, thereby deserved the odium of his fellows, the resolution was nevertheless indefinitely postponed, the majority preferring to await further action by the Trade Interests Committee and the Council before resorting to ultra measures. The discussion was participated in by Messrs. Martin, Wilson, Schreiber, Lee, Bodemann, Kerr and others.

The following resolutions were adopted:

Whereas, Our esteemed associate and friend, Mr. Henry Sweet, has been taken from us by death Therefore,

Resolved, That we record our sorrow over his untimely demise, and our high estimation of his many noble qualities, and our sympathy for his family in their great bereavement.

Resolved, That a copy of these resolutions be sent the pharmaceutical press and an engraved copy to his family.

In answer to a question as to the practice with reference to supplying alcohol under the city ordinance, nearly all present stated they delivered alcohol to minors without an order from parent or guardian, but that in the case of liquors in general an order was usually required.

A member of the Committee on Legislation stated that there was every reason to believe the ordinance permitted sales of alcohol and liquors to any person, minor or adult, the sole question being as to the legitimacy of the purpose for which sold, as defined by ordinance. This opinion, he added, was not indorsed by the Citizens' League, and druggists would, therefore, have to take the risk of prosecution.

The Council then adjourned.

DETROIT (MICH.) PHARMACEUTICAL SOCIETY.

The society is in a flourishing condition and includes in its membership the larger portion of the druggists of the city. Action was taken at the last meeting with a view to effecting the repeal of the Federal liquor license, and inquiries submitted relative to "early closing," to maintaining prices, and to retailing by wholesalers.

IOWA PHARMACEUTICAL ASSOCIATION.

(Editor of the Western Druggist.)

Please allow me to announce through your columns that the next annual meeting of the Iowa State Pharmaceutical Association will be held at Des Moines, beginning on Wednesday, Feb. 10, 1886.

The late decision of our Supreme Court will bring matters of such importance before the convention that the interests of every druggist in the State should be represented by his personal presence. A full attendance will better enable us to accomplish desired results.

Ample hotel accommodations and railroad transportation at reduced rates have been provided for.

With the generous hospitality and genial disposition which we know from experience to characterize the Des Moines druggists, we can certainly anticipate a time of pleasure and profit. C. R. WALLACE, Pres.

P. S.— Wholesale druggists and pharmacists wishing space for exhibits can be accommodated by corresponding with our local secretary, A. H. Miles, Des Moines.

INDEPENDENCE, IA., Jan. 2, 1886.

MISSOURI BOARD OF PHARMACY.

At the last meeting of the above the following passed the examinations, there being twenty-seven applicants: Charles D. Winn, Kearney; Walter C. Valentine, Springfield; Christopher C. Prather, Meadville; Geo. F. Collins, St. Louis; Albert Weber, Lexington; August Hoyermann, St. Louis; Dixie L. Haggard, St. Louis; Carl Tabor, Adrian; Oscar H. Ott, California; Ernst Wilbach, St. Louis, Geo. D. Andrews, Golden City; Thomas Hodges, West Line; George M. Staub, St. Louis; Ellsworth E. Hunter, St. Louis; Albion P. Gest, St. Louis; James H. Sweringen, Nevada; Wendell L. Keith, Bonne Terre; Rudolph C. Hoyer, St. Louis; James E. Colby, St. Louis; Francis L. Morrison, St. Louis; John C. Bondurant, Charleston.

ILLINOIS BOARD OF PHARMACY MEETING.

At the Springfield meeting of the Board on Jan. 12 the following (out of sixteen applicants) were successful in their examinations, the first-named standing highest: M. F. Bahnsen, Edwardsville; A. E. Bingham, Chicago; Wm. E. Dean, Waterman; Wm. R. Fringer, Tower Hill; Eugene Moffitt, Chillicothe; Wm. S. Webster, Chicago; E. A. Schmitz, Chicago; Frank W. Sweringen, Decatur.

MEETING OF THE MICHIGAN BOARD OF PHARMACY.

A business meeting of the Michigan Board of Pharmacy was held at Muskegon on Tuesday, Dec. 29, for the purpose of transacting unfinished business. Two thousand seven hundred and twenty-four applications for registration as registered pharmacists and 166 for registration as assistant pharmacists have been approved by the Board and registered—making a total of 2,890. There are still ten or fifteen cases needing some corrections, when they will be registered, making a total of 2,900 pharmacists registered under the act. The Board will hold a meeting in Grand Rapids on March 2 for the purpose of examining candidates for registration. The limit allowed by law expired Dec. 18, and all persons desiring to register in the future must pass a satisfactory examination before the Board. George McDonald has been re-appointed by Gov. Alger a member of the Board for five years. Certificates of registration have been issued to all whose applications have been acted upon and ordered registered by the Board.

Reviews.

HAGER'S UNTERSUCHUNGEN.—A Hand-book for the Examination and Testing of Commercial Products, natural and artificial, Poisons, Foods and Proprietary Articles, etc. Illustrated; Second edition revised and enlarged by Dr. H. Hager and A. Gawalowski. Leipzig: Ernst Guenther, 1881.

The name of the author and the reception given the first edition of this work speak its practical usefulness. The co-operation of A. Gawalowski was intended by Dr. Hager to make the work of value "not only to pharmacists, but to chemists and to intelligent people generally, and to elevate it to a plane in keeping with the advance of science." It is intended to run through fifteen numbers. The value of such a work to the pharmacist in his laboratory for the qualitative test and quantitative estimation of drugs cannot be over-estimated. The knowledge of the pharmacist should at least keep pace with the Pharmacopœia which from time to time calls for the application of more scientific knowledge. In the proper application of tests for the identification, purity and strength of drugs, the information in a work of this kind is indispensable. This information, of which there is altogether too great a dearth in the present status of pharmacy, embraces the various steps and processes in the preliminary examination of substances, outlined as to physical and microscopic qualities. Examination in the dry and wet way follow with the chemical tests, and quantitative examinations, both gravimetric and volumetric, are considered, etc., etc. We predict an extensive use of this book upon the strength of its merits alone, and it would no doubt be highly appreciated by many more if translated into English.

THE UNIVERSAL PHARMACOPŒIA, A Comparative Compilation of the present Pharmacopœias of Europe and North America. By Dr. Bruno Hirsch. Leipzig: Ernst Guenther, 1885.

The first number of this work has made its appearance, and would seem to call for more than a passing notice. In the contemplation of such a work we are impressed with the vastness of the undertaking, and the difficulties lying in the way of a successful disposition of each substance, owing to the numerous Pharmacopœias and the frequent variation in the standards for the strength and preparation of officinal substances. Just how satisfactorily this has been done, a perusal of this first number may indicate. The author has adopted the German language written in Latin characters, the reason being obvious, as it is better suited to the requirements of his own country. It suggests what might be done by each country in case a universal Pharmacopœia of one common standard is ever adopted.

The chemical compounds, both organic and inorganic, and their preparations, are alphabetically treated under a general pharmaceutical Latin title, after which follows the officinal title by which it is recognized in the various Pharmacopœias. For example, under acid acetic, we have: Acidum Aceticum glaciale, U. S., Brit., Graec. Acid. acet, concentratum, Austr., Belg., Hung,; Russ.; Suec,, etc., etc., according to the Pharmacopœia in which they are officinal, the mode of preparation following. If not officinal it applies equally well to all, and the preparation, properties and tests need not be repeated. Differences in strength or specific gravity are appended in tabular form. The differences are shown by a most ingenious and convenient method, by which can also be seen at a glance the officinal names. It is interesting to note the variety of substances which enter into either one or the other formulæ. In Aromatic Vinegar, for example, there are about 36, ranging from Allium (Garlic) to Rosemary; the Gallic and Grecian Pharmocopœias inclining toward the former.

We can also readily compare preparations of other countries which are not officinal with ours, and the work becomes valuable to the extent that these are in common use so that we can utilize the information. In a cosmopolitan locality it is a great aid to the apothecary, and sometimes it becomes a necessity, to note the great variation in the strength of acids of the same name, which may have to be taken into consideration in dispensing. To that extent only and not to the fact of needing more or better preparations not found in our Pharmacopœia, will this work prove a useful addition to the pharmacist's library.

The author's name, combined with German thoroughness, is a sufficient guarantee of the satisfactory performance of the undertaking. It is a new revision of the former work, entitled "Pharmacopœial Recentiores," made necessary by the recent appearance of the revised French Codex and the German and U. S. Pharmacopœias.

We have received the twentieth annual announcement of the Chicago College of Pharmacy, containing an exposition of the facilities and advantages of this prosperous institution. The curriculum embraces the various branches of a thorough and complete course of instruction, in which the new college building with its commodious lecture hall and pharmaceutical and microscopical laboratories affords exceptional advantages. The college has two terms a year—a spring and a fall term—the conditions for admission and the course being the same in both. The faculty is an unusually strong one, and the popularity of the school is evidenced by a large and rapidly increasing attendance.

The President of the British Pharmaceutical Association at a recent meeting said: "I think it must be admitted that throughout our dispensing transactions and many more which are cognate thereto, the professional fee is the true basis of value for our services. But then comes the question of how to apply this principle. In other professions, law and medicine, for instance, the range of professional service is uniform and limited, and the scale of charges is consequently easily fixed and understood. With us, on the other hand, the range of service is wide and multifarious, made up, as it were, of a great many little parts; and there may be endless discrepancy of opinion among ourselves as to its value, and the public, or at least a great part of it, will never understand paying money and receiving something intangible for it, as a transaction exactly like paying a doctor or lawyer, and there will be very unpleasant impressions as against one pharmacist or another. It is a somewhat intricate problem, but it is only to be solved by openly and honorably recognizing and acting on the principle which I have enunciated, by making a fair estimation of the imponderable elements in ou transactions, intelligence, skill, responsibility, applicable in all cases, and independent of the value of the materials we have to work with."

Progress of Pharmacy.

ANDROMEDOTOXIN is the name given to a crystallizable poisonous principle found in several Ericaceus plants by Plugge (Archiv, Dec., p. 917.) The principles found in the several species of this order seem to be identical and described as colorless, odorless, crystallizable, poisonous principle, having well defined chemical and physiological action. It has been identified in four of the Andromedæ, and Plugge mentions the fact that several medicinal and poisonous Erricacious plants exist of whose constituents little is known.

HYDRONAPHTHOL, A NEW ANTISEPTIC, is put forth by Dr. G. R. Fowler, of New York, as being ten to fifteen times more powerful as an antiseptic than carbolic acid. It is described as a hydride of Naphthyl belonging to the aromatic series (Pharm. Record, Dec. 1, p. 401.) Although so much more powerful than carbolic acid it is claimed to be non-poisonous, non-irritant, and non-corrosive, but not disinfectant. Its saturated aqueous solution, about 1 to 1,000 is said to be perfect in its inhibitory action, and to preserve animal tissues and liquids from decomposition, while upon the living tissue it has no perceptible action other than coating it with a slight film. Chemically it is a hydride of naphthyl belonging to the aromatic series, of an aromatic taste and odor, and crystallizable, sparingly soluble in water, but freely in alcohol, ether, chloroform, glycerin, benzole and the fixed oils; it is not volatile at ordinary temperatures, though subliming at 90° C. It is recommended for absorbent dressings and as a substitute for iodoform diluted with 50 times its weight of magnesium carbonate.

THE ACTION OF CHLORINE AND IODINE ON PILOCARPINE has been investigated by Chastaing. Chlorine acts on pilocarpine in a chloroform solution, analagous to bromine producing dichloride of dichlor pilocarpine hydrochlorate ($C_{11}H_{14}Cl_2N_2O_2$. Hcl, Cl_2) as a transparent varnish, which after a time crystallizes as the Dichlor pilocarpine hydrochlorate ($C_{11}H_{14}Cl_2N_2O_2$. Hcl.) Chlorine and moist pilocarpine produces the base dichlor pilocarpine ($C_{11}H_{14}N_2O_2$-Cl_2.) Pilocarpine and iodine both in chloroform solution produce a quite stable monoiodo pilocarpine ($C_{11}H_{15}N_2O_2I$.) on evaporating and treating the residue with oxide of silver and chloroform.

IN THE MANUFACTURE OF SPARTEINE A NEW PROCESS has been discovered by Houde and Laborde (Rep. de Pharm., Dec., p. 533.) The extract of scoparius, obtained by 60 per cent. alcohol, is dissolved in a solution of tartaric acid and filtered to remove chlorophyll and scoparine. The acid solution is then made alkaline with potassium carbonate and shaken with five or six times its volume of ether, which removes the alkaloid. The alkaloids are purified by agitating the ethereal solution with acidulated water, neutralizing and recovering with ether as before. The alkaloid of which the plant contains three-tenths of one per cent., is described as a colorless liquid, with a pungent odor and bitter taste, boiling at 278° C. soluble in alcohol, ether, and chloroform, and insoluble in benzin, and petroleum oils; it forms salts with acids, which crystallize readily.

THE DESSICATION OF PLANTS, by immersion in saline solutions has been observed by M. Levallois (Comptes Rend., 1175.) The branches, twigs and leaves, and also flowers of certain plants, when immersed in a strong solution of chloride of calcium have been found to undergo a change similar to drying, after the lapse of a certain length of time. The branch of an orange tree, after immersion for two days, lost 60 per cent. of its moisture, but still retained its odor of neroli and upon examination was found to have lost none of this oil. Peppermint, which loses 85 per cent. by drying, lost 70 per cent. of moisture when treated in this way, but all plants can not be deprived of their moisture by this process, probably owing to a difference in their cellular structure. This abstraction of water and the consequent contraction of the tissues is due no doubt to the great affinity the concentrated saline solution has for water, which causes an exosmodic action. If the vegetable tissue be left in the solution for a longer period, and an endosmotic action sets in, the tissue swelling becomes heavier than the original substance due to the absorption of some of the chloride of calcium solution. If now removed and placed in pure water it becomes lighter and assumes its original weight at the time of collection, but a second immersion in the chloride of calcium solution will cause it to gain instead of lose weight, as at first. Solution of chloride of magnesium can also be used, but it does not act as well as chloride of calcium. It is possible that the above may find practical application in the industries.

ACONITUM UNCINATUM and A. Fischeri have been shown in the seventh number of "Drugs and Medicines of North America" to possess some unlooked for properties. In the first instance Aconitum Uncinatum has always been considered a poisonous species on the authority of Hooker. It has been shown that the plant possesses none of the properties of Aconitum ferox or A. Napellus, and, although containing an alkaloid, it has not the numbing and tingling taste of A. Napellus. The runner in this species which produces the new root and leaf-bud, is from 1 to 8 inches in length, much longer than in the other species. In regard to A. Fischeri it was found to increase, instead of diminish the cardiac pulsations of the heart, contrary to the action of A. Napellus, which was attributed to the possibility of proximate principles being associated with aconitine in the root. For these and other reasons it is obvious that they should never replace A. Napellus for internal administration.

MANUFACTURE OF COCAINE.—Prof. Bignon, of Lima, recommends the liquid hydrocarbons as solvents for cocaine. Coca leaves are macerated about 40 hours in a solution of sodium carbonate, then dried and placed in a percolator with benzin, and again allowed to stand 48 hours. All of the cocaine which has been isolated by the sodium carbonate will be dissolved by the benzin. The benzin solution is shaken with water acidulated with hydrochloric acid (1-10), thus forming cocaine hydrochloride, which dissolves in the water. The coloring and resinous matter which has been dissolved by the benzin remains with the latter, the acid solution containing pure cocaine hydrochloride.

HYPNONE is another phenyl compound which has been discovered by Dujardin-Beaumetz and Bardet to possess intense hypnotic properties (Comptes Rendus). Given to an adult in a dose of from .05 to .15 gram, in glycerin in

gelatin capsule, causes profound sleep, and is regarded as superior to chloral or paraldehyde in the treatment of alcoholism. One-half to one gram injected subcutaneously into a Guinea pig, is said to produce remarkable hypnotic torpor, passing into coma, and causing death in five or six hours.

LANOLIN is a cholesterine fat, and a constant accompaniment of Keratin, found in the feathers of birds, in hog bristles, in the nails of animals, in bones of fish, but most abundantly in wool fiber, from which Dr. Liebrich derived its name. Physically it is distinguished from other fats by the readiness with which it absorbs water. It has neutral properties. The wool fat of the market contains all the way up to 20 per cent. of fat acid, from which the neutral Lanolin is obtained by neutralization. Dr. Jaffe and Darmstadter have obtained the pure Lanolin by a highly ingenious method.

Experiment has proven that medicines are more readily absorbed when Lanolin is used as the vehicle. Mercury is easily extinguished by it, and a salve of the strength of 1 to 1,000 was found to retain a metallic taste, upon rubbing a piece as large as a pea upon the scalp. A 4 per cent. salve of carbolic acid made with it will have a benumbing effect when rubbed on the skin, not produced by salves of ordinary fats of the same strength—(Deutsch Med Wochen Schr.)

KERATIN is prepared according to Dr. Gissman (Ph. C No. 37,) as follows: Twenty grams finely cut feather quills are digested ten hours in water, then transferred to a mixture of 100 grains of ether and 100 grams of alcohol and macerated eight days. The liquid is then filtered, leaving the horny substance free from fat, which is then dried and transferred to capacious flasks containing 200 grams concentrated acetic acid, and to which has been attached a glass tube to act as a condenser of the vaporizing acid and lead it back into the flask. The mixture is boiled slowly for thirty or forty hours on a sand bath, until solution is completed, then filtered through spun glass and evaporated to a syrupy consistence, spread upon glass plates, dried and obtained in lamilar pieces, or scales. For coating pills it is dissolved in ammonia water or acetic acid, according to the process employed.

ARTIFICIAL COCAINE, it is said, has been discovered by Merck, of Darmstadt, who has succeeded in manufacturing it from benzoyl-ecgonin. It may be obtained by heating benzoyl-ecgonin with a slightly larger quantity of iodide of methyl and a little methyl alcohol in a tube to 100 degrees. This mixture is digested in a water bath, to expel the undecomposed iodide of methyl and methyl alcohol. From the syrupy residue cocaine is extracted as a hydriodate. From this salt pure cocaine, dissolving at 98 degrees the same as natural cocaine—is produced. The artificial substance is found to answer all tests.

PICHI is the Fabiana imbricata, a plant indigenous to Chili, where it is in great repute in the treatment of urinary diseases, even those due to renal and vesical calculi. Dr. A. Rodriguez thinks it especially valuable in catarrh of the bladder from lithiasis, and in certain tropical affections of the liver. In Rio de Janeiro it has been found useful in several cases of jaundice, dropsy, and dyspepsia from deficient biliary secretion. It has been found to contain a highly aromatic essential oil, a resin, and a fluorescent substance resembling esculin, paviin, and fraxin, which crystalizes in needles.

NOTES AND NEWS.

C. F. Goodman, Omaha, has become the Goodman Drug Company.

The Massachusetts Board of Pharmacy have received (to Dec. 28,) 1630 applications for registration.

The Wisconsin Board of Pharmacy will meet at Madison on Jan. 20, and the New Jersey Board at Trenton on Jan. 21.

The laboratory of the Wm. S. Merrell Chemical Company, Cincinnati, was somewhat scorched recently, but not to an extent to inconvenience the company seriously.

Prof. Remington has disposed of his drugstore in Philadelphia, and in company with Prof. Saunders expects to go abroad in March or April to remain until September.

The "Third Biennial Report" of the Iowa Commission of Pharmacy, just issued, is an ably edited and arranged pamphlet of 186 pages, brimful of information respecting pharmacy and the drug trade in that State.

We acknowlege our appreciation of the very flattering notices by our contemporaries and the compliments by friends in all parts of the country relative to the consolidation of the WESTERN DRUGGIST and the PHARMACIST.

It is stated that Dr. Squibb has decided to discontinue his Ephemeris. This is greatly to be regretted, as the contributions to pharmacy of Dr. Squibb in the Ephemeris have been a marked feature of recent periodical literature.

The proprietors of "The Chemist and Druggist" (London) have opened a branch office at 41 Temple Court, Beekman St., New York, where the business of that journal with the United States will hereafter be conducted.

Messrs. H. Planten & Son, the well-known New York specialty firm, celebrated its fiftieth birthday recently. It is rare to find a firm with a half-century record so free from blemish and marked with so much that is admirable in business life.

Hon. C. W. Day has been reappointed a member of the Illinois Board of Pharmacy for the term of five years. His record as member and secretary of the board for the longest initial term was a sufficient commendation for renewed honors by the Executive.

The "Hurd Pharmacy" has precipitated a "price cutting war" in Cincinnati. At last accounts the contest was still raging. We suggest that Cincinnati try the plan of organization by ward unions, particulars of which will be forwarded upon application to the WESTERN DRUGGIST.

A German journal publishes a statement to the effect, that the dog which bit Joseph Meister bit another boy the day before, and that the latter, not having been sent to Paris, still remains in excellent health. On the strength of this statement, the journal in question doubts if the dog really had rabies.

Governor Alger, of Michigan, acted in accordance with the fitness of things when he reappointed Mr. George McDonald a member of the State Board of Pharmacy. Despite his extreme modesty Mr. McDonald has been forced into prominence by reason of his recognized ability, integrity and devotion to the cause of pharmacy in his State.

The discussion at the last meeting of the Executive Council of the Chicago Retail Druggists' Association with reference to relief from scalping dealers is of interest to retail druggists in all parts of the country, especially those in the larger cities. The ponderous continental Campion was too unwieldy for efficiency; it fell of its own weight; it relied for success on the co-operation of jobbers and proprietors; it lacked cohesion and concentration. These

deficiencies are not apparent in what is termed the "local control system." The details of the plan have not as yet been determined upon, but there is every promise of a successful solution of the important problem under consideration.

G. L. Grimes, a druggist of Bairdstown, Ohio, publishes a newsy little monthly journal containing popular medical and pharmaceutical information which his patrons will doubtless appreciate. For effective and legitimate advertising the idea is a good one. We note a statement that the WESTERN DRUGGIST best represents the interests of the trade in this section of country."

According to a London paper an apothecary had just received a fresh supply of vaccine points, and some of them happened to be exposed to view on his counter. A burly farmer who was in at the time, amused himself by using one of the points as a toothpick, pricking his gum in the operation. It "took" in the most approved style, and the man is now in possession of a mouth that is crowding all the other features of his face out of shape.

Mr. W. T. Thackeray, formerly with Messrs. Parke, Davis & Co., Detroit, has located in Chicago as the manager of the Inter-State Drug Association, a co-operative corporation composed of prominent retail druggists in the West, and designed to secure for its members the benefit of extra discounts for merchandise purchases in quantity. Mr. Thackeray is a man of ability and experience peculiarly qualified for making a success of the project.

Dr. Daniel Carrion, an esteemed Peruvian physician lately lost his life in consequence of having inoculated himself with the blood of a child suffering with the disease known as *verruga peruana*. According to the "Union medicale," he performed the experiment for the purpose of demonstrating the identity of the disease with *fiebre anemizante*, or *fiebre de la Oroya*. The demonstration was successful, but it cost the life of the experimenter.

The rise and progress of beet-root sugar in Europe is the subject of an article in the Sugar-Cane Magazine, in which the people of the United States are warned against any attempt to grow beet root for sugar. These articles are interesting insomuch that they point to the fact that beet-root sugar is not identical cane sugar, as our text-books assert. If preserves can not be made with beet-root sugar it will be found that its use in pharmaceutical syrups should be avoided.

C. D. Stevens, of Woodbine, Iowa, has devised a "Merchants' Statistical Memorandum and Cash Book" which has many unique and meritorious features. It is designed to afford to retail dealers an easy system for keeping a correct account of daily business, combined with cash and merchandise accounts, showing at a glance the condition of business for each day, month and year. The book is well bound and sells for $3 and $5 according to size. It is well worth the attention of druggists who have an eye to economy and accuracy in book-keeping.

According to the Chemist and Druggist a law case which might have been of interest has been spoiled by the too great eagerness of the plaintiff and the amiability of the defendant. Dr. Stretch Dowse applied to the Chancery Division of the High Court of Justice last month to obtain an injunction against Battle & Co., of Southampton Row, London, to prevent them from publishing a letter which he had written to them expressing a high opinion of the virtues of a medicine they were selling under the title of "Bromidia." The case came first before Vice-Chancellor Bacon, and afterward on appeal before Sir James Hannen and Lords Justice Bowen and Fry. The court refused the application, because it appeared the doctor had not asked Messrs. Battle to discontinue the publication before having a writ served on them. And it since transpires that the defendants are willing to forego the advantages of Dr. Dowse's testimony rather than litigate with him.

A New York judge has lately decided that a landlord is responsible for the sanitary condition of a house that he rents. In this case tenants refused to pay the rent of a house they occupied because it contained sewer gas, and from which they removed before the expiration of their lease. The landlord sued for the amount due him on the remainder of the lease. Tenants gained the suit.

Judgment of $50 and costs was obtained by the Illinois Board of Pharmacy against Henry Van Sanhin, of Tuscola, for keeping a pharmacy without a registered pharmacist in charge, and against Robert J. Foster for practicing pharmacy without having renewed his certificate as "registered assistant." Both cases were before Justice Sullivan, of Arcola.

On Dec. 23, before Justice R. H. White, Chicago, judgment of $50 and costs was obtained against E. C. Felton for keeping a drugstore at 92 E. Van Buren street without being himself registered, or having a registered pharmacist in charge.

A law in Georgia requires that packages of morphine preparations shall be inclosed in a scarlet wrapper, with a scarlet label having the contents plainly indicated thereon in white letters. To insure uniformity in legislation of this kind, a Philadelphia firm suggests that State pharmaceutical associations indorse and encourage the use of a similar label. This suggestion, taken in connection with that of the WESTERN DRUGGIST last month, advising the employment by manufacturers of *one-eighth* ounce bottles only, would, if carried into effect, tend to diminish the risks of dispensing, to a minimum. The similarity in size as well as in general appearance of morphine and quinine containers is in all probability responsible for most of the errors in dispensing these agents. When the change is made let it be thorough and effective.

In answer to "Medicus," who complained of counter-prescribing by druggists, and asked for a remedy, the Chicago Daily News pointedly says physicians have a choice of remedies. "They may boycott the druggist who trenches upon their prerogatives, and refuse to send their prescriptions to such. Or they may dispense their own medicines and thus enter into direct competition with the druggists themselves. Or, finally and most desirably, they may abandon a profession for which they demonstrate their unfitness by confessing inability to cope with a druggist in securing patronage. No doctor who is a necessity to the community has time or inclination to watch that a druggist does not give a dose of medicine without the sanction of the split-tailed R. If 'Medicus' were a philosopher he would recognize that these druggists—admitting his charge that those who apply to them are victimized and made worse—are really the friends of the doctor."

The commercial traveler of a Philadelphia house, while in Tennessee, approached a stranger as the train was about to start, and said: "Are you going on this train?" "I am." "Have you any baggage?" "No." "Well, my friend, you can do me a favor, and it won't cost you anything. You see, I've two big trunks, and they always make me pay extra for one of them. You can get one of them checked on your ticket, and we'll euchre them. See?" "Yes, I see; but I haven't any ticket." "But I thought you said you were going on this train." "So I am; I'm the conductor." "Oh!" He paid extra, as usual.—N. Y. Independent.

The Iowa Decision.

We made mention last month of the decision by the Iowa Supreme Court in the case of the State of Iowa vs. F. Bissell and Ed. Lehon, involving the validity of the State pharmacy law as related to sales of liquors by registered pharmacists. We append the text of the decision:

THE OPINION.

In the Supreme Court, June term, 1885, State of Iowa vs. F. Bissell and Ed. Lehon, Appellants. Appeal from Harrison District Court. The defendants were jointly indicted and convicted for maintaining a nuisance by keeping a place for the sale of intoxicating liquors contrary to law. They now appeal to this court. Lehman & Parks, L. R. Bolter, Charles McKinzie for appellants. A. J. Baker, Attorney General, Baylies & Baylies, for appellees.

Beck Ch. J.

I. The facts in this case are not in dispute and may be briefly stated. The defendants are druggists and, without a permit from the Board of Supervisors, sold intoxicating liquors for medical purposes since the 15th day of October, 1884. The question for our determination is this: Under the statute now in force, may a druggist, holding a certificate from the State Board of Pharmacy authorizing him to engage in the pursuit of an apothecary, lawfully selling intoxicating liquors for medical purposes without a permit.

1. Under the law forbidding the traffic in intoxicating liquors as found in the code, all sales of such liquors, except those made by persons holding a permit from the Board of Supervisors to sell for medicinal and other lawful purposes, are forbidden.

It is insisted by defendants' counsel that section 8 of chapter 75, Acts of the Eighteenth General Assembly, amends and modifies the prior legislation so far as to authorize apothecaries, duly registered under the act, to sell liquors for medicinal purposes, without a permit required of other persons. Counsel for the State deny this position. For the purposes of this case the position may be admitted, as our opinion is based upon the ground that if section 8, chapter 75, Acts of the Eighteenth General Assembly, has the effect claimed, it is repealed by the subsequent act of Twentieth General Assembly, chapter 143, which substantially re-enacts the provision of the code without any exception in favor of apothecaries.

II. The case briefly stated is this: Under the code apothecaries were forbidden to sell intoxicating liquors without a permit. Chapter 75, acts Eighteenth General Assembly amends, or modifies the prior statute and excepts apothecaries from the existing prohibition. Chapter 143 of the acts of the Twentieth General Assembly, repeals the provision of the code providing a penalty for selling intoxicating liquors without a permit, and enacts a prohibition in almost the language of the prior statute, providing an increased penalty for the violation of the law. It thus appears that a statute, to which by subsequent legislation an exception was made, was repealed and re enacted without providing for the exception. The last statute is inconsistent with the one making the exception and repeals it by implication. The last expression of the legislative will must prevail. That it was the purpose of the General Assembly not to continue the exception of the pharmacy act, or, in other words, to repeal the provision containing the exception, is established beyond controversy by the fact that the last act is utterly inconsistent with the prior pharmacy statute. It contains a prohibition against all persons; the pharmacy act excepts apothecaries. It is the last statute and must prevail. These conclusions are based upon familiar principles which will be everywhere recognized without the citation of authorities in their support. No question of the construction of the statute is in the case, as counsel of defendants seem to think and argue. The controlling question involves the fact of the repeal to the provision of the pharmacy statute in question. We are to go no further than to determine whether that provision is repealed by the later statute on which we find a general prohibition in conflict with that provision. Both statutes cannot be upheld as to the subject involved in this suit. The first must give way to the second.

IV. Counsel for the defendant call in question a statute passed by the Nineteenth General Assembly repealing the provision of the pharmacy law considered in this case, and insist that it never took effect. It was not signed by the Governor and is not printed with the other statutes passed by that General Assembly. Counsel for the State do not attempt to support the statute, but admit that it never became operative. We are not required to give the statute consideration in view of the ground upon which we decide this case.

We are not permitted to consider the policy of the statute in question, or inquire as to its effect. We can do nothing more than inquire whether there is a conflict between the statutes in question and which one, under the rules of the law, must stand. Counsel for defendant express our duty in the following language so clear and forcible that it merits quotation and approval: "Not, however, according to the desire of any man or set of men, is the law to be construed. Who may be hindered, who may be helped, is not the question here; not what should be but what is the law."

The judgment of the District Court is affirmed.

The decision will give rise to some animated discussion at the meeting of the Iowa Pharmaceutical Association which meets in Des Moines on February 10, next. The gentlemen having charge of the matter will no doubt be prepared to submit a draft of a bill having the desired amending legislation in view. The Convention will afford a good opportunity to druggists throughout the State to visit the capital while the legislature is in session, and impress their views upon their representatives.

Emperor William, of Germany, has signed the spirits monopoly bill and submitted it to the bundesrath. The papers devote several columns to the draft of the bill and comment on the measure. The bill proposes to compensate those deprived of a livelihood through its operation on the basis of a two years' income to each person ten years in the trade. The traffic will be controlled by a monopoly ministry which will appoint agents to do the wholesale vending of the refined spirits. The federal States appoint the retailers. Restaurateurs, etc., by special favor will be allowed to sell spirits obtained from the monopoly without regard to prices enacted by the State retailers. Possession of brauntwein by private persons above a specified minimum will be a penal offense; also importation of raw or refined spirits. Communes will be empowered to add 50 per cent. to the monopoly selling price. The bill, if passed, will go into operation in August, 1888.

In an article on Paraffinum Molle, B. P. (or Petrolatum, U. S. P.) the Chemist and Druggist says, "The use of this body for the preparation of Ointments will, beyond doubt, find favor. The British Pharmacopœia," it says, "gives considerable latitude in the melting point which is named as 110° to 145°. An ointment made with a base melting at 110° must be appreciably softer than a corresponding ointment made with a base melting at 145°. It was not wise to give so great a margin, if only for the reason that a paraffine with a melting point of 126° commands but half the price of one melting at 142°, this latter temperature representing highest melting point of the best trade samples. Since Moss in 1875 and Martindale and Gerrard subsequently pointed out that this substance might with advantage be used as a basis for ointments, the body has come into general use. Most of that supplied to this country is from America, a little from Germany. The Pharmacopœia tells us that in commerce it is known by various fanciful names such as Petrolina, Vaselin, Cosmoline, etc. It is unfortunate that the officinal paraffinum molle has not been made to agree with good trade samples as imported direct from America. The description in the United States Pharmacopœia practically agrees with samples met with in trade here, viz, 104° to 120° melting point."

THE WESTERN DRUGGIST.

VOL. VIII. No. 2. FEBRUARY 15, 1886. Subscription Price, $1.00 per annum. G. P. ENGELHARD & CO., Chicago.

(For the Western Druggist.)

THE RISE AND SPREAD OF THE METRIC SYSTEM IN EUROPE.

BY OTTO SCHNURRER, BROOKLYN, N. Y.

In a series of articles published through the columns of the Weekly Drug News, of New York, last spring, the writer protested against the spread of the metric system in this country, and argued against its further use from practical and theoretical grounds. Several answers and a few adverse criticisms were elicited, but they lacked the dignity and force of a serious refutation. In addition, about a hundred private communications were received from doctors and druggists all over the country indorsing the objections to the metric innovation, with but two exceptions voting in favor of it. Since that time Prof. Oscar Oldberg, of Chicago, once an advocate of the new system, has likewise and on similar grounds, publicly declared against its further use in our medical and pharmaceutical departments. But as there seems to exist a wide-spread illusion, entertained by learned and unlearned men both here and elsewhere, assuming without further proof that "so many wise European goverments, through their best scientific men, after eleven years' consideration of the subject, formulated the now popular metric system," and adopted the same spontaneously as the "ne plus ultra" of all systems (see Weekly Drug News, May 2, 1885, on page 166) it will certainly be no work of supererogation to show from the records of history that *no European government ever adopted that system spontaneously* except, perhaps, the German Empire, some ten years ago, eighty years after its first establishment in France, and then only for reasons of political expediency that cannot have the least influence over our own ideas of fitness and practicability in a question of so far-reaching and deep-cutting consequences. Besides, it would seem to be rather absurd for an American to appeal in minor things to the opinion of those wise European governments whose authority in matters of greater importance we have repudiated ever since we or our forefathers have crossed the Atlantic Ocean, fifty, one hundred, or three hundred years ago. If there are, nevertheless, women amongst us that cannot live without fashioning their daily clothing, eating and drinking at the command and bidding of some transatlantic bugbear, and men that must change their very talking and thinking to the tune of some Paris, Berlin or other "scientific society,' they simply manifest thereby a more childish faith in the assumed infallibility of those modern oracles than Roman superstition ever did in the divination of their augurs and haruspices.

But the metric spell emanating from such quarters can be most effectually broken by reviewing the history of the rise and spread of this unprofitable invention in Europe. The metric system, so far from being "the product of the accumulated labor, study and erudition of ages," or even the satisfaction of a long-felt want for the benefit of international trade, is nothing more or less than the ill-begotten child of the French Revolution—of that revolution in which the monsters of raving communism and the demons of universal murder and rapine succeeded for a time to drown the voice of humanity in torrents of blood, and the revelry of beastly lust. Every student of history knows that the metric system, in its *fundamental conception, was the outgrowth of*, not a scientific want, not a commercial necessity, *but an atheistic rage against every political, social and religious tradition* sacred and dear to the human heart. Hence it was inaugurated under the guillotine and sprinkled with the blood of kings, priests, and the flower of French manhood and womanhood, at the same time that a naked wench was raised to the altar of Notre Dame, in Paris, to be worshiped as the Goddess of Reason, in whose favor the God-appointed seventh day—Sabbath, or Sunday—was abolished to make room for a more rational—that is, a decimal—division of time, each tenth day to be kept as a metric national holiday. After such gentle preparations, lasting from 1791 to 1794 (the decimal order of time beginning on Sept. 12, 1792), and after such demonstrative proceedings, under which even men like Lavoisier, the father of modern chemistry, were leveled down by the headsman's ax, did the revolutionary government finally succeed in 1795 to force the metric system on the terror-stricken nation. The scientific and philanthropic swaddling-clothes that were wrapt around the bastard baby of Danton, Marat and Robespierre cannot conceal the ugly mother-spots of its nefarious origin.

If the French government of 1790, just before leaping the constitutional fence, issued an invitation to the governments of other countries to join in the plan of introducing a new system of weights and measures, and if these governments responded by sending their scientific men and delegates to Paris, it was done out of regard for international courtesy. The French wanted to see their plans received with general favor, and the other governments were not unwilling to listen to reasonable propositions. But the meeting was merely informal, and no delegate had any more power to commit his government than the American delegate had at the late Congo conference in Berlin. Nothing was agreed upon, the delegates went home without any binding action, and the French government proceeded alone to have an arc of the meridian measured between Dunkirk and Barcelona, to serve as a basis for the standard meter which was adopted in 1795, as above stated

but had to be corrected in 1799, and is still found to be faulty. Meanwhile war had broken out between France and her neighbors, and nobody thought of imitating the metric innovation, for the blood-stained republic was viewed with horror by all the civilized nations of the world. In 1801, when Bonaparte was first consul, the corrected system was again made obligatory throughout the French domain, but, owing to the prejudices of the people in favor of established customs and the great confusion consequent upon the use of the new measures, a compromise was effected in 1812, allowing the old divisions and names ascending in twos, threes, fours and eights, etc., to co-exist with the new ones. As, however, nobody can serve two masters, this double arrangement was abolished in 1837, and in 1841 the metric system as it now stands was enforced to the permanent exclusion of the old ones. Thus we see it took no less than fifty years, with abundant knocks and blows from the successive governments, republican, imperial and royal, with troubles, losses and confusion untold, to fasten this unprofitable invention on the French people.

Let us now examine how it came to spread into other countries. By its scientific superiority over other systems? No! By the spontaneous adoption of governments? No! By the request of scientific societies? No! How then? By brute force; by the right of warlike conquest, and by the pressure of political necessity. In this manner it was introduced into Portugal, Spain, Italy, Switzerland, Belgium and Holland, for when at the beginning of the present century the French armies, under their great leader, Attila-Napoleon, overran all Europe, they carried their metric blessing along in their pockets, and showered it down unstintingly upon the poor, benighted countries they had conquered, without asking whether the blessing was wanted or not. And as they did not let go their hold upon those countries for many years—not until their backbone was broken at Moscow, Leipzig and Waterloo—the metric weed had found time to spring up abundantly and grow apace wherever it had been planted by its philanthropic seedsmen. Thus it happened that everywhere double weights and measures came into use, the new imported ones by the side of the old local ones, especially in the above-mentioned countries, that suffered the most and the longest from French invasion and occupation. To get rid of the confusion resulting from the use of conflicting sets of weights and measures, it became necessary for those countries to adjust and remodel their systems. Spain, Portugal and Belgium having been always more or less under French influence socially and politically, concluded to adopt the metric system with all its faults, to the exclusion of their own former weights and measures, soon after it had been definitely established in France in 1841. The other countries retained it either in part, adjusting it to their own as far as they could, or legalized its use without making it obligatory, wherever it had already gained a foothold by force of political circumstances. This is the true history of "its official indorsement by so many wise governments, hospitals and scientific societies," and is certainly no evidence at all that they had "looked around in search of it." If we consider that Holland and Belgium were under French control ever since 1795, the greater part of Italy since 1797, Switzerland since 1798, the German provinces on the left of the Rhine since 1801; that all these states, together with Spain, were merged into the great French Confederacy of 1806, under viceroys and governors appointed by Napoleon and selected from the imperial family—Eugene Beauharnais being Viceroy of Italy, Joseph Napoleon King of Naples, Louis Napoleon King of Holland; that in 1807 even Westphalia and other parts of Germany were presided over by King Jerome Napoleon; that Portugal was conquered in the same year; that Joseph Napoleon became King of Spain in 1808, Joachim King of Naples and Sicily; that the Pope was exiled in 1810, and Holland annexed to France; that wherever the French established themselves they likewise established the official use of their language, their Code Napoleon, their civil administration, their tax-collectors, and their metric system; and that this annexing and absorbing process went on for many years, until an end was made of it in 1815 and 1816; we need not wonder why the political wagtails and office-seekers of those days had to kiss the metric baby all around, even on the ugly mother-spots of its bastard origin. But alas! there remained Great Britain, Russia, Austria, and a few other insignificant countries, that never enjoyed the pleasure of a French occupation, and, of course, had to go without the metric blessing. Owing to their stupidity, and because they "never read a medical journal," they have up to the present day failed to apply for it.

It is true that some of them have, for the accommodation of their theoretical dandies, consented to legalize its use, as England did in 1864, the United States in 1866, and some other countries, for the same or other reasons; but the fact stands, nevertheless, that the common-sense people, especially in the United States, have for these twenty, thirty and forty years persistently refused to bite the metric bait that has been held out to them, "even in our public schools," so that nothing would seem to avail for its introduction but the smuggling or "forcible education" process so characteristic of its early history and so appropriately suggested by a certain writer in the Weekly Drug News of May 9, 1885, on page 172. Why the Dutch, too, so well known for their sound common sense, their practical judgment, and their advanced position in science, though they could not avoid the metric system politically, should yet have refused to admit it to their pharmacies, preferring the old apothecaries' weight to the new-fangled thing, just as the English do, is a problem that our opponents cannot solve. And now that our own druggists and physicians, by a vast majority, are likewise satisfied with their grains and ounces, our grocerymen with their pounds and hundredweights, our surveyors with their chains and links, our railroad men with their miles, our mechanics with their feet and inches, and our people generally with their weights and measures, *some of our own theorists propose to bridle up the horse by the tail, and let the metric harness slip in by the back door of our Pharmacopœias and drugstores*, because, forsooth, they deem it improper, and cannot tolerate it, that the Chinaman's foot should be different from the Hottentot's, the English yard less than the French metre, and the Bavarian

beer-tumbler bigger than the Kansas back-door whisky-dram! Oh! sublime logic of some medical paper and prescription writers that undertake to prove the necessity of our riding of the metric horse because some others mounted the same "as per necessity"!

If Germany some time ago adopted that system spontaneously, which for so many years she had despised, and which Napoleon himself was unable to fasten upon her, she must have had some practical reasons of her own for so doing, and these reasons may be easily understood, though their wisdom may be doubted. When, after her victorious return from France in 1871, she found herself united in the bonds of a new-born empire, she had to get rid of her thirty-eight different systems of weights, measures, and coin values. Courtesy, or if you please, mutual jealousy, would forbid any one of their thirty-eight systems to prevail over all the rest, so they concluded very naturally to adopt that one which was in vogue with their nearest neighbors, and that happened to be the metric system.

But what reason can *we* have to follow her example, when throughout the length and breadth of our magnificent country, surpassing the whole of Europe in extent of territory, we have but one uniform system of weights and measures, well known, easily understood, and easily handled by the learned and unlearned? And granting that there are some defects and anomalies in the relation of the Troy and avoirdupois weights, we must always bear in mind that as "possession is nine points in law," so is familiarity nine points in science, and ten in practice.

THE VELOPORPHYRE.*

A NEW PHARMACEUTICAL APPARATUS.

By M. B. Giraud, Dijon, France.

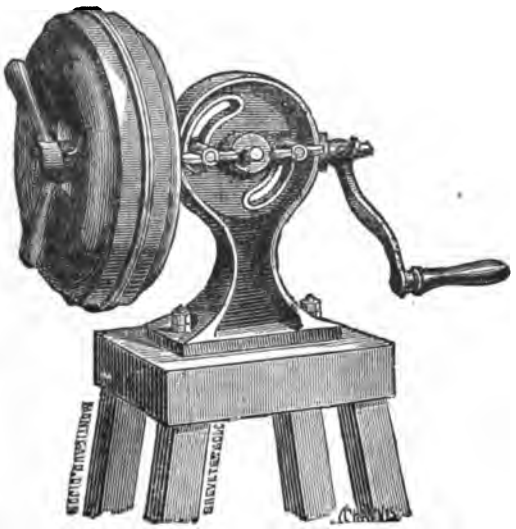
Pharmacists are well acquainted with the various instruments which serve to triturate, pulverize, etc., and those which are employed when it is necessary to mix fatty bodies of unequal consistency, alone, or mixed with vegetable or mineral powders to make a perfectly homogeneous mass. From the antique mortar, which is still the emblem of the pharmacist, to the latest evolution of the pharmacist's mechanical fancy, all are based on the same principle: Interposition of one or several soft or solid substances between two resisting bodies, one of which is convex and the other concave. The idea is universally applied in the industries, yet in actual practice several defects are apparent in the application of it to pharmaceutical uses. The two parts which are to produce the effect only come in contact by a single line and point which is the case with bullets rolled in a pail; or by a very restricted surface which is the case with the mortar and pestle. Besides this, the substances undergoing preparation tend to fly from the points of contact of the two bodies; special skill in manipulation is required to prevent this, and the interposition of spatulas, etc., is often required to restore the mass scattered on the walls of the vessel to the center of action.

The intimate mixing of fatty bodies of unequal consistency requires for these reasons considerable time. The apparatus I have constructed, while not perfect, does away with most of the beforementioned inconveniences. It is a hollow cylinder in shape of a crown; imagine a stove pipe of which the two extremities are brought together in such a way as to give it the appearance of a wheel. This hollow cylinder is completely closed. It may be turned vertically on its axis and contains in its interior a heavy solid ball. Such is a strictly simple description of the principles of the instrument. Starting from these principles I have constructed the instrument herewith presented. It consists of half-crowns of polished metal made by cutting the crown perpendicularly at the circle of the cylinder and capable of being re-united and hermetically sealed. Through the center of the crown passes an axis supported on a foot. By means of a handle or a pulley, it can be turned vertically on its axis. In the interior of the crown rolls a solid heavy ball of metal; a certain weight is necessary. The diameter of the ball and the interior diameter of the crown are nearly equal so as to allow of only such play between the walls of the crown and the ball as is necessary for mixing. Thus, in case of fatty bodies of unequal consistency, the difference need be but four millimeters. The amount of play can be varied with the substance treated.

These are the fundamental principles of the instrument. This crown is vertically placed on its foot, then a quarter of a turn to the horizontal position is made. Suppose the article to be mixed is cold cream; the crown is raised horizontally on its foot, then the upper half-crown is raised and the mixtnre of liquefied fatty bodies is poured into the lower half-crown; the ball, heated in a sand bath, is put in and the upper half-crown is then replaced and then hermetically sealed by means of a key. The necessary quarter of a turn is then made, after which the handle is turned continually to the end of the manipulation, the duration of which will vary according to the skill acquired in the use of the apparatus and the amount of time needed for opening it from time to time. During the rotation the apparatus rolls the ball with it in its course. The latter rolls constantly, but only in the inferior third of the wheel, executing two movements; the first rapid on its own axis in the sense of rotation; the second slower and alternately in both senses. The ball at each movement acts on the fatty substances by every part of its circumference at the same time. In consequence, the fatty bodies are mixed at each instant, and do not

*Translated from L'Union Pharmaceutique, January, 1886.

adhere to the ball. By a single turn of the handle all the mixture passes under the kneader. What an immense number of strokes of the pestle would be required to effect a similar result. The pomade thus prepared is of necessity free from dust and foreign matters, being prepared in a closed space, and is made in a much shorter time than with the mortar. The apparatus can be made



in any size to suit requirements, but it is scarcely needed for the preparation of small quantities. Separating the two half-crowns, the pomade can be removed with a spatula much more easily than from a mortar. The apparatus can not be used for powdering elastic or ligneous bodies, but, by varying the diameter of the ball, it will serve to powder salts very quickly.

PLANT CRYSTALS.

BY PROF. E. S. BASTIN, CHICAGO.

Crystals are of almost universal occurrence in the higher plants, existing in them in a great variety of interesting and beautiful forms. Their study therefore, constitutes an attractive branch of microscopical science, and since the crystalline forms found in drugs, occasionally, at least, constitute important means of identifying them, the subject is not without practical interest to the pharmacist.

In the study of plant crystals we must sharply distinguish between those which exist naturally in the plant and those which may be formed in it by reagents used in the process of examining it. The former class consist almost exclusively of five substances, namely, silica and carbonate, oxalate, sulphate and phosphate of lime. The latter class includes a considerable variety of organic and inorganic substances, differing, of course, according to the chemical composition of the plant, and the character of the reagent used.

We will first consider the crystals that exist naturally in plants.

Silica very seldom, if ever, exists in the interior of vegetable cells in the crystalline form, but it very often exists as an incrustation or a deposit in the substance of the cell wall. This deposit, when it occurs, is most commonly found in the walls of epidermal cells, or of cells near the epidermis, and it is often so great in quantity as to make the tissue very hard and firm. The external surface of some bamboos, for example, are made so excessively hard by it that they turn the edge of steel cutting-instruments, and consequently when it is desired to cut them down a saw is used for the purpose instead of an ax. Common examples of plants that secrete silica are the common scouring-rush (Equisetum hyemale), the stems and leaves of most grasses, the leaves of some species of figs, of the elm, hackberry, hop, artichoke, and some species of wild sunflowers and verbenas. The deposits thus made are usually the most abundant in the exterior portion of the cell wall; it often exists in greater quantity on the upper than on the under side of a leaf, and not infrequently it is found in epidermal appendages, as in the hairs of the nettle and of Deutzia scabra, but not in the epidermis itself. In the case of the nettle the silicification of the cell wall is chiefly confined to the long tubular shaft of the stinging hair, which by the deposit is made hard and brittle so that it readily breaks off and penetrates the skin when handled. In the case of Deutzia all the rest of the leaf may be dissolved away by means of appropriate reagents, leaving only the beautiful stellate hairs, which are well known and favorite polariscope objects with the microscopist.

In this silicification of the cell wall it is not possible, usually, to recognize distinct crystals, even by aid of the highest powers of the microscope, but that the deposit, in many instances at least, is not amorphous but made up of exceedingly minute crystals, may be inferred from their polarization effects.

The mode of isolating silica in silicified tissues is, first, to treat the tissue with nitric acid for a considerable time, then heat it to redness on clean platinum foil, and then, finally, to treat it again with nitric acid. It is in this way usually that the beautiful preparations made of the epidermis of the scouring-rush, and of the hairs of Deutzia scabra, are obtained.

Calcium carbonate also more commonly occurs as a deposit in the cell walls of plants or else as an incrustation on the surface. It is usually in the crystalline form, but as in the case of silica, the crystals are not often obvious to the eye, even when viewed with the highest powers of the microscope. The polariscope alone reveals the fact. In a few instances, as in acetabutaria, corallina and some other marine algæ the deposit is so great as to give the entire plant a stony character, but more commonly it exists in smaller quantity. It is very apt to be deposited in the epidermis or in epidermal appendages. The hairs of many plants owe their beautiful polarization effects to the calcification of their cell walls. Carbonate of lime does not very often exist in the crystalline form in the cavity of the cell. Perhaps the most curiously interesting formations of this mineral are those termed *cystoliths*. These, so far as we at present know, are confined to the natural orders Urticaceæ and Acanthaceæ. Beautiful examples of them occur in the leaves of Ficus elastica. Fig. 1 represents a small part of a cross-section of one of these leaves. Above is the upper epidermis of the leaf, below this two or three rows of cells of supporting

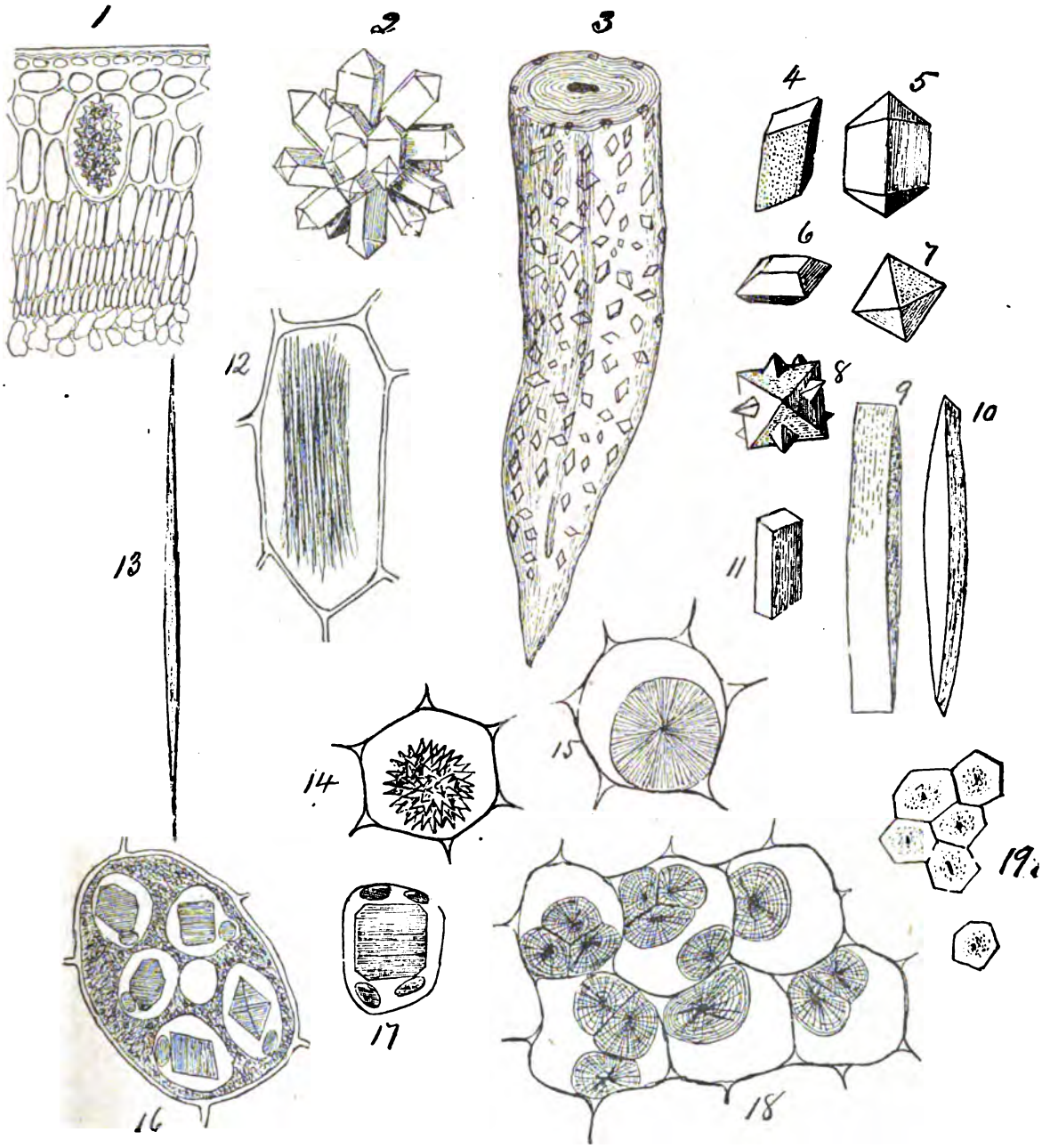


PLATE SHOWING PLANT CRYSTALS AND OTHER FORMATIONS WHICH MAY BE MISTAKEN FOR CRYSTALS.

Fig. 1. Portion of transverse section of leaf of Ficus elastica, showing cystolith.

Fig. 2. Cluster of Sphere crystals of calcium oxalate from the officinal Rhubarb.

Fig. 3. Portion of Sclerenchyma cell of Welwitchia mirabilis, showing crystals of calcium oxalate deposited in the cell wall.

Figs. 4, 5, and 6. Common forms of single crystals of calcium oxalate.

Figs. 7 and 8. Crystals of calcium oxalate from petiole of Begonia.

Figs. 9 and 10. Different views of a crystal of calcium oxalate from cells of leaf of Agave.

Fig. 11. Crystal of calcium oxalate from intercellular space in leaf of Agave.

Fig. 12. Cell from rhizome of Trillium grandiflorum, showing bundle of raphides: x 500 diameters.

Fig. 13. One of the raphides crystals more highly magnified.

Fig. 14. Sphere crystal cell from pith parenchyma of stem of Rumex crispus.

Fig 15. Cell containing Sphere crystal of calcium oxalate from Phallus caninus.

Fig. 16. Cell from endosperm of castor oil bean, showing crystalloids embedded in proteid grains: x about 500 diameters.

Fig. 17. One of the proteid grains from same, more highly magnified.

Fig. 18. Group of parenchyma cells from chicory that have been treated with absolute alcohol, and shows sphere crystal of inulin precipitated in the cells.

Fig. 19. Shows starch grains from rice, assuming angular, somewhat crystal-like form, from neutral pressure.

tissue, then come the palisade cells, and, lowest of all, a few cells of the loosely arranged parenchyma of the middle portion of the leaf. The cystolith is the oblong, tubercled and stalked body pendant from the top of a very large cell which is located just beneath the epidermis. In shape it reminds us somewhat of a compact cluster of grapes. These bodies exist in considerable numbers next the upper epidermis of the leaf, but are less abundant and smaller next to the lower surface. What their function may be, it is difficult to conjecture, unless it is to mitigate in a measure the effects of the sun's rays. It is composed largely of carbonate of lime as is shown by treating it with chlorhydric acid, which causes bubbles of carbon dioxide to form freely in the interior of the cell; but it is not all composed of this material, as is proved by the fact that a complete skeleton of the original cystolith is left behind. This, on treating it first with iodine and then with sulphuric acid, turns blue, showing that it is composed of cellulose. As no visible cavities are left in the skeleton from which the mineral matter disappeared, but it appears perfectly homogeneous when viewed under the microscope, the presumption is that the mineral matter must have been deposited in it, molecule by molecule. The stalk of the cystolith is found to contain in addition to calcium carbonate and cellulose, a small quantity of silica.

In the common nettle the cystoliths have the same composition, but a different shape. They are more elongated, fusiform or slightly curved, their longest diameter is in a direction parallel to the epidermis instead of perpendicular to it, and the cystolith is suspended by the middle instead of by one end.

Carbonate of lime not infrequently occurs as a superficial incrustation on leaves or other organs. This is the case with some fresh water Algæ, some species of the Characeæ, the floating leaves of some Potamogetons, etc. Whether in these cases it is excreted from the plant, or, by some chemical agency in the plant, precipitated from the water, is still an unsettled point. Limy incrustations also occur on the leaves or fronds of various species of Polypodium and Aspidium, on the leaves of several of the Saxifrages, on the leaves of Statica Limonium and some other Leadworts, etc. These deposits do not always consist of pure carbonate of lime, but sometimes of mixtures of this with silica, iron oxide, or occasionally small quantities of carbonate of magnesium.

Of all the crystals and crystalline masses normally existing in the cells of plants, those of calcium oxalate are by far the most common. They are indeed seldom absent from flowering plants, and in some they occur in great abundance, but they are of much rarer occurrence among the lower forms of vegetative life. In the higher plants they are found in various tissues, sometimes in the wood, sometimes in ducts, bast and stone cells, sometimes in inter cellular spaces, and sometimes in special conceptacles, but they most commonly occur in parenchyma. When large they often occupy nearly the entire cell cavity to the exclusion of other cell contents. They begin in ordinary cells, and as they increase in size the other cell contents gradually disappear. If, however, a fully formed crystal be slowly brought into solution by acting on it with very diluted chlorhydric acid and then testing the apparently empty cell with iodine, a delicate protoplasmic film which enveloped the crystal will usually be made evident, and if the appropriate test for cellulose be applied it will often be found that the interior of the crystal contained a delicate skeleton of this substance.

The forms which oxalate of lime crystals assume in the cells of plants are exceedingly numerous. Sometimes they occur singly, as in Figs. 4, 5, 6, 7, 9, 10 and 11, and sometimes in clusters, as in Figs. 2, 8, 12 and 14. The different forms, however, are reducible to two principal crystalline systems, the octahedral and the prismatic. Examples of the former occur in the petioles of Begonia (Figs. 7 and 8), and of the latter in the inner bark of the apple and maple, in the leaves of the orange, and in the outer scales of the onion.

The crystals belonging to these two systems differ in the amount of water of crystallization which they contain, those belonging to the octahedral system having the chemical formula $\left.\begin{matrix}CaO\\CaO\end{matrix}\right\} C_4O_6 + 6H_2O$ and those to the prismatic, the formula $\left.\begin{matrix}CaO\\CaO\end{matrix}\right\} C_4O_6 + 2H_2O$. Doubtless the combination of these two forms in various proportions is one of the causes of the immense variety of calcium oxalate crystals which we observe.

In some families of plants, particularly in the arums, evening primroses, and in certain species of the Liliaceæ, bundles, resembling in shape sheaves of wheat, and consisting of great numbers of needle-like crystals, called raphides, occur in the parenchyma cells. Fig. 12 represents a raphides cell from the rhizome of Trillium grandiflorum magnified about 500 diameters, and Fig. 13 a single crystal from the bundle, much more highly magnified. The common calla lily is an excellent plant in which to study these forms. If a thin section of the stem or petiole be placed in a drop of water and examined under the microscope the raphides cells will be observed to swell and shoot out their contents in a manner that is sometimes rather startling when viewed under a moderately high power. Raphides seldom present any angles capable of being measured, so it is difficult to determine to which system they belong; but there is some reason to believe from their behavior by polarized light that they are modifications of the prismatic system.

Calcium oxalate crystals more commonly occur in clusters than singly. Two forms of these are common. The first and most abundant consist of globular clusters covered on the surface with radiating points in which the facets of the crystal are more or less evident. These differ very widely in size and in the shape of the points in different plants. Sometimes they resemble Fig. 2, which represents a mass of crystals from the officinal rhubarb, and sometimes the radiating points are much more numerous and sharper, as in Fig. 14, which represents a cluster from the pith parenchyma of Rumex crispus. In the former plant these crystalline masses are so abundant that they communicate a decided grittiness to the drug when bits of it are crushed between the teeth. They are also exceedingly abundant in the pith and bark parenchyma of the twigs of butternut when gathered in the autumn, in the bark of pomegranate root, the bark of the stem of buckthorn, and they

are both abundant and of large size in the stems of many species of Cactus.

The other form is globular, and has a radial internal structure but no projecting points. Fig. 15 represents a cluster of this kind from Phallus caninus. They are much more rarely met with than the other kind. Both alike are called *sphae-raphides*, or *sphere-crystals*.

Besides occurring in the cavities of plant cells, calcium oxalate is also sometimes found either in the form of evident crystals or in that of minute granules, in the substance of the cell wall. They sometimes occur in this way in Angiospermous plants, as in the epidermal cells of the leaves of some Dracœnas and Mesembryanthemums; but they are much more common in Gymnosperms. In few of these, however, are they optically distinguishable as crystals; but in the curious South African Gymnosperm, Welwitchia mirabiles, the sclerenchyma cells found in the strap-shaped leaves have their thick walls densely studded with distinct crystals. A part of one of these cells is illustrated in Fig. 3.

It is a noteworthy fact that calcium oxalate crystals, as well as other mineral deposits, are apt to occur in greatest abundance in old leaves which are about to be shed.

It is not uncommon also to find them in considsiderable numbers in twigs in the autumn, after the leaves have been shed.

The method of distinguishing calcium oxalate from calcium carbonate in the cells of plants is by treating the tissue, while under observation, with acetic acid. The oxalate crystals are not affected, while the carbonate dissolves with effervescence. Another test is to apply cold dilute chlorhydric acid. Both dissolve in this reagent, but only the calcium carbonate with effervescence.

But little need be said of crystals of calcium sulphate and calcium phosphate, as these are of very infrequent occurrence in plants for the reason that the calcium sulphate and phosphate taken up by the plant, are both usually decomposed with the formation of calcium oxalate. This is in fact the origin of the calcium oxalate crystals, so abundant in plants. The sulphur of the sulphuric acid and the phosphorus of the phosphoric acid, by some chemical process we do not yet understand, are utilized in the production of albuminoids.

Crystals of calcium sulphate, are said nevertheless to occur in willow bark, aconite root, rhubarb, and in some other plants, while Calcium phosphate has been detected in the wood of the Indian teak.

Crystals, like many of the forms found in plants, may be imitated, as was first shown, by Vesque, in the following manner:

Take three test tubes. In one place a moderately strong solution of calcic chloride, in another place a five per cent. solution of sugar, and in the third a solution of potassic oxalate. Connect the solutions in the tubes by means of strips of filter paper. If connected in the order above described, crystals of small size resembling raphides will be produced in the sugar solution. If pure water be substituted in the place of the sugar solution, prisms of small size but with sharply defined faces and angles will be produced. And so by varying the composition of the liquid in the middle tube a considerable variety of crystals may be formed, some of them indistinguishable from the calcium oxalate crystals found in plants.

It would be impossible, of course, in these limits to enumerate all the possible forms that might be produced in the plant artificially by treatment with the reagents ordinarily used in microscopy. Only a few examples will be mentioned of substances most likely to be met with. One of these is inulin, which is an isomer of starch, replacing that substance in many of the Compositæ, as in the roots of burdock, dandelion, chicory, dahlia, inula, the tubers of artichoke, etc. This substance exists in considerable quantity, in these plants, in the autumn particularly, dissolved in the cell sap. As it is but sparingly soluble in alcohol, thin sections of a fresh root containing it, when treated with strong alcohol, will have the inulin precipitated. When obtained in this way, it forms sphere-crystals which might be mistaken, unless properly treated, for sphere-crystals of calcium oxalate. Fig. 18 represents some cells of chicory, treated as above described, containing inulin crystals. The magnification is about 500 diameters. Inulin is easily distinguished from calcium oxalate by its solubility in water heated to 60° C., and it is readily identified by boiling it in a weak solution of chlorhydric acid, which converts it into glucose, and then testing for glucose by Trommer's test.

Another organic compound likely to be precipitated from solution by treatment of certain tissues with absolute alchohol is asparagin. It is a rather widely distributed substance being found not only in the roots of Asparagus, but in Convallaria, in Ornithogalum, in many Papilionaceæ, in the seeds of horse chestnut, the sprouts of basswood, lilac, elder and oak.

When a thin section from a plant containing it is treated with absolute alcohol while under observation, crystals will be seen to form. These are usually of rather large size and belong to the orthorhombic system.

They may, according to Borodin, be distinguished from other crystals by heating them to 100° C. when they melt, give up their water of crystallization and form oily-looking, strongly refractive droplets.

Another glucoside, hesperidin, is likely to be precipitated in making preparations from the leaves, fruits or twigs of the orange, if the sections are immersed in alcohol or glycerin. Thus obtained, it is in the form of sphere-crystals which are readily distinguished by treating them with an alkali, in which case they dissolve, producing a yellow or reddish coloration.

As there are numerous other crystalline forms that may be precipitated by alcohol or other reagents used in preparing tissues for microscopical examination, it is always well to guard against mistaking them for forms naturally occurring in plants, by first observing whether they are present in the unprepared specimens.

Very different are the *crystall*—masses of protoplasmic matter, in the resting or inactive stage, which assume a form more or less closely imitating true crystals. They are commonly found in seeds, particularly in oily ones, and sometimes in tubers or thickened roots that are heavily charged with nutritious materials. They occur, for instance, in the cells just beneath the epidermis of the common potato. Fig. 16 represents a cell from the endosperm of the castor oil bean magnified about 500 diameters. The crystalloids

will be seen in the interior of large protein granules, which is their usual mode of occurrence. The stroma, or inclosing mass, which holds them, frequently more or less obscures them, but as this dissolves or partly so by soaking in cold water, while crystalloids do not, this treatment renders the latter more visible and easily studied. Long soaking, however, causes them to swell and alter their angles. This is accomplished more rapidly by treating them with a weak solution of caustic potash. By these tests as well as by the ordinary tests for protoplasm they are readily distinguished from true crystals.

PATENT MEDICINES.

II.

BY C. S. HALLBERG.

In our last we referred to the claims of patent medicines, broadly asserting that the formulas for the greater portion of them were in use long before their alleged discovery.

This statement scarcely needs to be corroborated. Is not their success chiefly dependent upon loud advertising? Is not their success measured by the very simplicity of their composition? In what way does the "safe" remedy at present heralded throughout the country as a wonderful specific, differ from the decoction long employed in domestic practice? and in what essential particular does the saintly compound recommended by all the heads of the municipal departments in Baltimore—the recipient of gold medals at all the world's expositions—differ from Carolina turpentine, though alleged to be "vom fichtenadeln in Schwarzenwalder bei Thubingen gewonnen"? They are designed to make money for their owners at the expense of the public, and of pharmacists and physicians. Who are the owners—these so-called proprietors? They are for the most part men who find that ordinary occupations for earning an honest living are too slow—whose desire is to "own" something which they can control. To such the patent medicine business is an inviting field, because these "remedies" cannot be judged by the public upon their merits. The only competition which they have is in shrewd advertising, and, once established, they have a monopoly and big profits.

It cannot be denied that the history of some of the most "successful" "proprietors," as far as known, will bear out the above statements. One of these proprietors was erstwhile a plain business man, without any remarkable philanthropic aspirations. Having in due time, however, suffered from some derangement of his internal physical economy and been snatched from death's door by a wonderful medical discovery, he felt it his duty to suffering humanity to herald the discovery far and near, and to engage in the manufacture of the boon and its sale at the highly philanthropic profit of about one thousand per cent. A venal press had, of course, to be subsidized, and the interests of society demanded that the twin demons, the professions of medicine and pharmacy, should be exposed in all their hideous wickedness and their insatiate greed for victims, and that the assertion of any independence on the part of druggists in their relations to this great reconstructive agency should be met with that policy of intimidation before which weak natures grovel and plead for mercy. Wonderful, this marriage of science and philanthropy, marvelous their millions of progeny at one dollar per bottle, and joyful indeed, the human race with rejuvenated kidneys at the philanthropic profit! Then, again, we have the Philadelphia philanthropist who was rescued, when on the brink of the grave with consumption, by discovering an old prescription, but only to succumb to the disease after he had built a marble palace with the profits accruing from the sale of the alleged discovery! Need we speak of the bold operator from the land of the Hottentots who, after a brilliant but short career, during which a fortune would be spent in a single day, escaped under the cover of night from an insane asylum to find refuge on a foreign shore, possibly there to join the exiled head of an alleged firm of "analytical chemists," whose great wealth, amassed in the patent medicine industry, had presumably driven him crazy. We may also "point with pride" to the one who, posing as a public benefactor, has erected a "universal dispensary," from which issues the vilest literature that ever disgraced a civilized community; whose "advice to wives" in the daily press is not only criminally suggestive, but is interdicted by law. And, finally, that great blessing, a one-ounce vial of the death-dealing opium compound, the alleged discovery of an angel of mercy, recommended to be kept in every household, a boon to the mother with which to *quiet* the poor little infant, the effectiveness of which is not infrequently confirmed by the mortality statistics.

These are the luminaries of the nostrum firmament, the beacon-lights of "progressive medicine." Is the picture overdrawn? No. The history of the "proprietors" rivals the fame of their "property."

Before going any further we desire it to be understood that the patent or proprietary articles referred to in this connection are those described as "family medicines," which are intended for consumption without and despite the advice of competent physicians, and purely on the strength of mendacious advertising.

The history of a man is not always a criterion upon which to base judgment of his wares or business methods, but in the calling or business of preparing and selling medicines it is unquestionably the best of all. Compared with even the lowest standard of integrity, of honesty, found in other occupations, how do these "proprietors" appear? The contrast is such as to suggest the extreme ebb of mercantile truth and honor. Wholly destitute of any knowledge of medicine or pharmacy, he lays claim to all but omniscience. Posing as the champion of humanity and health, he betrays the heartlessness and diabolism of a Nero. Pretending to beneficent, unselfish instincts, his ambition is the essence of a plundering monopoly. He lays claim to processes in use long before he was born; to the discovery of occult virtues in drugs hidden to a Bartholow or Squibb; and to complete the scheme of misrepresentation, he invokes—alas! too generally with success—the cooperation of an agency known to enjoy the confidence of the public in such matters. We refer to the profession of pharmacy, or, rather, the drug trade.

Such are the business methods of these men of

whom nearly a score, according to good authority, have become millionaires. Such a condition, it may be said, if the above be facts, would not have been tolerated; public sentiment would be aroused; men of intelligence, imbued with a love for humanity, would have become interested in a question involving so much; the power of the press would be exerted, and all the guardians of the public weal would be aroused to action. In the face of the stubborn fact, however, we find the evil rarely, if ever, referred to among the many, both real and imaginary, to which modern journalism, in its several ways, devotes periodical attention.

But where, all this time, is the physician—the man who, above all others, should be thoroughly familiar with the facts; who is the constituted pilot of the frail human bark through the treacherous rocks of disease; who, from the birth of the infant to the decrepit octogenarian, exercises a watchful care; who, invested with legal authority, carefully records the causes of disease and measures for sanitary and hygienic reform? While searching for the physician, why may we not seek also for their superiors in neglect and culpability?—those who, while not literally are yet in fact the agents of these medicinal monstrosities. The druggist is the best authority; he not only knows the essential constituents of the "remedy," but also what it can cure. Sometimes, in fact, he has "seen it used," and says "it is highly recommended."

(Communicated)

THE OXIDATION OF PHOSPHOROUS ACID TO PHOSPHORIC ACID BY MEANS OF BROMINE.

BY ADOLPH SOMMER, BERKELEY; UNIVERSITY OF CALIFORNIA.

The product of the slow aerial oxidation of phosphorus contains about one molecule of phosphorous acid to four molecules of phosphoric acid, and besides these some impurities, such as arsenious acid and others, mostly derived from the phosphorus. Of these impurities the arsenious acid is particularly objectionable, and must be removed before the process of oxidizing is entered upon. The removal of the arsenic, as has been described in my article on "The Manufacture of Phosphoric Acid from Phosphorus," is best effected by heating this acid to 190 degrees C., subsequent diluting and filtering, after which the acid is ready to be oxidized. Heretofore nitric acid has been the only substance employed for this purpose, but since the price of Br. has become so low (about 35 cents per pound in 5-pound bottles) that its cost no longer is prohibitory to its employment in the industries, and furthermore since the value of hydrobromic acid has been recognized both in analytical chemistry as well as in therapeutics, it may prove advantageous to substitute Br. for nitric acid in the oxidation of phosphorous to phosphoric acid.

From the equation

$$H_3PO_3 + Br_2 + H_2O = H_3PO_4 + 2HBr.$$
$$82 \quad 159.5 \quad 18 \quad 98 \quad 161.5,$$

it will be seen that it requires nearly two parts of Br. to every one part of phosphorous acid. But the total acidity of the mixture of phosphorous and phosphoric acids, when of a sp. gr. of 1.48 is about 66 per cent. the composition of which approximates the proportion of one molecule (or 12 per cent.) of H_3PO_3 to four molecules (or 54 per cent.) H_3PO_4. To convert the 12 per cent. of phosphorous acid into phosphoric acid would require theoretically 2X12=24 per cent. of Br. This result agrees very closely with that obtained in practice, where it was found that with an acid of sp. gr. of about 1.48 there was needed a little over one-fourth of its weight of Br. to complete its oxidation. This operation may be performed, after the arsenic has been removed, either in a bottle containing the acid and Br. by shaking this mixture from time to time (it must, however, not be shaken too often nor too much at one time, since a considerable amount of heat is liberated by the reaction, which may easily reach the boiling point of Br.—65 degrees C.), or it may be accomplished more rapidly by pouring the two substances into a retort and keeping the mixture agitated by slowly passing air through it. In order to prevent any Br. vapor, which is carried off by the air, from contaminating the atmosphere of the laboratory, I caused the air which escaped from the retort to pass through two bottles containing a solution of caustic potash. When the mixture is no longer decolorized on standing for about twenty-four hours, but retains a permanent orange color, which is due to an excess of Br., the oxidation may be considered completed. The excess of Br. is best removed by the addition of a small portion of the unoxidized mixture of acids, which has been reserved for this purpose.

A still better plan by which the liability of introducing a large excess of Br. into the acid is avoided, but which requires a little longer time than the one related last, consists in pouring the acid to be oxidized into a large, wide-mouth, glass stoppered bottle, and the Br. into another but smaller glass-stoppered bottle, which will go into the larger one. (See Fig. 1.) After the open bottle with Br. has been inserted into the bottle with acids, and the latter closed, the Br. gradually evaporates and oxidizes through its vapor, which is absorbed by the acids, the phosporous to phosphoric acid. When the interior temperature of the apparatus is kept below 25 degrees C. the acids do not consume the Br. as rapidly as it evaporates, and therefore are under these conditions always, dark orange-colored, unless the supply of Br. vapor is shut off by closing the Br. bottle, whereupon the color of the acids disappears within twenty-four hours.

But when the apparatus is kept in a moderately warm place, where the temperature is twenty-five degrees C. or over, the reducing power of the phosphorous acid is so much increased that the mixture of acids remains colorless, or acquires only a light orange color, so long as any phosphorous acid is left unoxidized. But as soon as this acid has disappeared the liquid assumes a dark orange color, when the bottle with Br. is to be lifted out, closed, and kept for the next operation.

There remains then only the separation of the bromhydric acid from the phosphoric acid, which is accomplished by distillation in a retort from an oil bath. The precautions which have been pointed out in a previous article on the manufacture of bromhydric acid in regard to its liability to decomposition by organic substances, have to be observed here. The mere insertion of the neck of the retort into a well-cooled receiver is sufficient.

Neither luting nor rubber connections are necessary. The first portion which comes over consists principally of water (and Br., if this has not been removed in the manner stated above) and should be withdrawn before the bromhydric acid, which does not evaporate to any great extent until a temperature of about 125 degrees C. has been reached, begins to distil. The distillation is continued until a temperature of about 180 degrees C. is reached, when the fire is extinguished and the receiver with bromhydric acid detached. The retort and its contents are allowed to stand till cold, when a quantity of water equal to about one-third of the bulk of the contents is poured into the retort. Heat is then again applied and the distillation continued until the temperature within the retort has reached the same height as before. This second distillation serves to remove a portion of bromhydric acid, which cannot be removed in the first distillation.

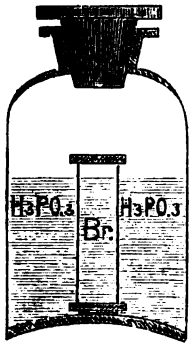


FIG. 1.
[Oxidation of Phosphorous Acid by Bromine Vapor.]

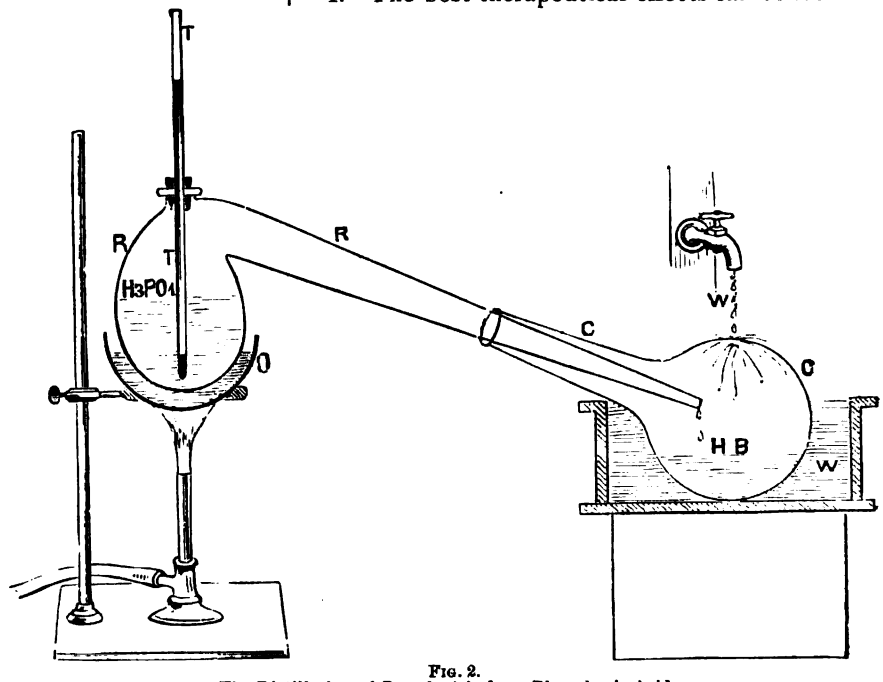


FIG. 2.
The Distillation of Bromhydric from Phosphoric Acid.
R. Retort with mixture of acids.
C. Receiver.
T. Thermometer.
W. Cooling water.
O. Iron capsule containing oil.

The phosphoric acid, which forms the residue in the retort, is a black, sirupy liquid, which, however, after dilution with water, digestion with about one-half per cent. of purified animal charcoal and subsequent filtration through white filtering paper (best, the brand known as "Chlorine paper"), becomes perfectly colorless.

The black color of the phosphoric acid is due to an organic impurity of the commercial Br., which, it is said, is derived from the luting of the stills, in the composition of which tar is used.

The bromhydric acid which has distilled over requires to be redistilled before it can be considered sufficiently pure for pharmaceutical purposes.

If the addition of Br. is made to an acid from which the arsenic has not been removed, the entire amount of arsenic will distil over with the bromhydric acid, while the phosphoric acid will be found free from arsenic.

DOSAGE OF NUX VOMICA.

THE influence of age on the dosage of nux vomica has been the subject of an elaborate investigation by J. H. Musser, M. D., and reported to the Philadelphia County Medical Society (Therapeutic Gazette.)

The following are some of the conclusions which are drawn:

1. The effects of nux vomica are in inverse proportion to the age of the patient; the susceptibility increases with the age.

2. The usual doses of the tincture indicated in the textbooks are inadequate for many practical purposes, and do not represent the usual dose of strychnine.

3. It is a powerful and rather transient stimulant.

4. The best therapeutical effects can be secured in many cases only by pushing the drug almost to the physiological dose.

5. The system soon becomes accustomed to its use, and the dose must be increased.

6. The good effects in dyspepsia are largely due to its power to heighten reflex excitability.

The incompatibility of antipyrin with sweet spirits of nitre has been discovered by Dr. Eccles (New York Medical Journal.) When added to sweet spirits of nitre, the mixture at first is clear and colorless, but becomes green with some hours' standing. Since antipyrin is a coal-tar product, Dr. Eccles believes that the change of color is due to the formation of a green aniline. This incompatibility is worth remembering, since both antipyrin and sweet spirits of nitre are antipyretics, and might be prescribed together.

THE MANUFACTURE OF LUBRICATING MEDIA.*

In the manufacture of lubricating media the material from which the English patent wagon grease is made is common "rosin oil," the so-called addition being first made by boiling the oleoresin with slaked lime with constant stirring, an operation highly detrimental to health. A quantity of oleoresin is boiled with a considerable amount of calcium hydrate for 10 or 12 hours with constant stirring until a homogeneous chocolate-colored semi-liquid results, one part of which is capable of transforming 10 or 12 parts of oleoresin to the smooth unctuous consistence of an axle grease upon continuous agitation for a short time. As the process is a tedious and laborious one to the workman and naturally offensive to residents in the vicinity, a modification of it was desirable. This led to experiments by Prof. A. Ihl, for ascertaining if hydrate of calcium did not act chemically upon the oleoresin during the long boiling. The investigation, especially of the reaction of the substance with nitric and sulphuric acids, indicated that oleoresin suffers no loss in chemical composition, but that, owing to long-continued boiling, a loss of volatile combinations were effected. Another question was as to whether this combination of lime and resin possessed this adhesive attraction for oil, as in the case of soap, palmitate of aluminium, etc.

If we heat petroleum with 2 or 3 per cent. of soap, an intense foaming will take place, until suddenly, at a temperature of 100° C., the whole contents of the vessel will be converted to a wax-like substance. In the same way aluminium palmitate has the property of rendering benzin, oil of turpentine, etc., semi-solid by the addition of five per cent., a small quantity of basic aluminium palmitate being sufficient to convert Vulcan oil to a solid fat.

The pure combinations of lime and rosin and aluminium and rosin were made by precipitating alkaline soda solutions of resin with solution of chloride of calcium and alum respectively; the resulting precipitates were washed and dried; aluminium rosin was not at all soluble in oleoresin and exhibited otherwise no change, while calcium rosin was readily dissolved by warmed oleoresin, which solidified to various consistencies on cooling. The solubility of calcium rosin in oleoresin seems to be the cause of the solidification of the latter, although in the addition the rosin is perfectly united with lime; still the greater part of the lime exists as finely divided calcium hydrate which unites with the oleoresin to which it is afterward added. For that reason the whole operation can be simplified. By simply bringing finely divided calcium hydrate in contact with the whole quantity of oleoresin hardening will proceed of itself and a disagreeable process is avoided.

A funnel with a cock casting formed with longitudinal and transverse apertures, with other novel features, has been patented by Mr. Frederick Catlin, of New York City. It is adapted, not only for pouring liquid from one vessel into another, but also for measuring and conveying or transporting liquids.

*Translated from Chem. Zeit.

*A REVIEW OF FIFTEEN THOUSAND PRESCRIPTIONS.

TABULATED BY ALBERT E. EBERT.

Nine contributions, designated by numbers in the tabulated report as follows, were received:

No. 1. Ebert's Pharmacy, Chicago: 5,268 prescriptions, by 569 physicians, extending over a period of one year.

No. 2. E. H. Sargent & Co., Chicago: 1,000 prescriptions, taken from file at intervals covering one year.

No. 3. R. E. Rhode, Chicago: 1,000 prescriptions, by 79 physicians, taken from file at intervals covering one year.

No. 4. L. C. Hogan, Englewood, Cook Co.: 1,000 prescriptions, by 73 physicians, taken from file at intervals covering one year.

No. 5. C. G. Bitner, Barrington, Cook Co.: 500 prescriptions, taken from file at intervals covering one year.

No. 6. C. G. Bitner, Crystal Lake, McHenry Co.: 500 prescriptions, taken from file at intervals covering one year.

No. 7. Isaac R. Diller, Springfield, Sangamon Co.: 1,000 prescriptions, by 65 physicians, taken from file at intervals covering one year.

No. 8. M. B. Travis, Assumption, Christian Co.: 4,192 prescriptions, by 8 physicians, taken from file extending over a period of two years.

No. 9. Asa Starkweather, Carthage, Hancock Co.: 1,274 prescriptions, by 13 physicians, taken from file extending over a period of one year.

The compilers of Nos. 1 and 3 have also furnished a report of the forms in which the prescriptions were prescribed, which adds to the interest of the respective answers.

[NOTE BY THE EDITOR: In tabulating the reports the compiler adopted a nomenclature permitting the most practical classification, viz., the English officinal names for all drugs and chemicals, and under each heading the preparations, thus presenting at a glance the form in which the various remedies have been mostly employed. This system of classification has only been deviated from (1) in the acids and the medicated waters, both of which are arranged alphabetically in their respective classes; (2) in such compound preparations as, by reason of their complex character, were equally entitled to classification under several headings. These are, therefore, introduced alphabetically under the classes to which they belong, e. g., elixirs, powders, pills, solutions, tinctures, etc. Mr. Ebert requests that members of the Association or others who desire to contribute similar compilations at future meetings, send to him for blank forms, which will greatly facilitate the labor of compiling. In the following table the ingredients in the total number of prescriptions only are presented, being therefore somewhat condensed from the original, in which the ingredients are exhibited separately as furnished by each contributor. As this individual exhibit is a matter of interest only to Illinois, the condensed form here presented will, to pharmacists generally, be found equally interesting with the original table, while the condensation facilitates quick reference:]

*Answer to a query of the Illinois Pharmaceutical Association: "What drugs and preparations are prescribed by physicians in Illinois?"

	Total.
Absinthium	1
Oil	1
Acacia	79
Mucilage	348
Syrup	60
Acid, Acetic	52
Benzoic	20
Boric	71
Carbolic	716
" Ointment	6
Chromic	3
Chrysophanic	5
Citric	8
Gallic	34
Hydriodic Syrup	6
Hydrobromic	2
" Dil	15
Hydrocyanic	76
Hypophosph	1
Muriatic	76
" Dilute	115
Nitric	12
" Dilute	20
Nitro-Muriatic	78
" Dil	73
Oleic	2
Phosphoric Dil	188
" comp. sol	19
Pyrogallic	1
Pyroligneous	2
Salicylic	147
Sulphuric	31
" Arom	194
" Dilute	49
Sulphurous	21
Tannic	212
Tartaric	12
Aconite	5
Extract	20
" Fluid	33
Liniment	2
Tincture	360
" Leaf	5
Alcohol	207
Dilute	19
Amylic	11
Methylic	4
Aletris, Extract	1
Almond, Bitter	2
Sweet Milk	6
Oil expressed	7
Aloes	38
Extract aqueous	34
Tincture	33
and Myrrh Tincture	37
Aloin	14
Althæa	2
Syrup	5
Ointment	4
Alum	83
Dried	5
Aluminum Silicate	1
Amber Oil	1
Ammonia Arom. Spirit	90
Liniment	5
Water	59
" Conc	2
Ammonium Ac t. sol	104
Bromide	90
Carbonate	56
Chloride	311
" Oint	1
C trate	11
Iodide	7
Ampelopsis, Ext. Fl	6
Amyl, Nitrite	3
Angelica, Root	1
Anise, Oil	28
Spirit	1
" Ammon	36
Anthemis	2
Extract Fluid	1
Antimonial, Wine	23
Antimony, Sulphurated	1
Oxy-Sulphurated	3
Tartarated	91
" Oint	2
Apiol	3
Antipyrin	1
Apocynum, Ext. Fluid	5
Tincture	3
Apomorphine, Muriate	2
Aralia, Racem, Ext. Fl	1
Armenian Bole	2
Arnica Flowers	1
Tincture	79
Aromatic, Tincture	1
Arsenious Acid	53
Donovan's Sol	12
Fowler's Sol	178
Asafœtida	21
Mixture	5
Tincture	12
Asclepias, Ext. Fluid	3
Atropine	1
Sulphate	76
" Oint	2
Balsam. Fir	10
Life (Hoffman's)	8
Peru	36
Baptisia, Ext. Fl	2
Bay Rum	3

	Total.
Beef Extract	2
Peptonoids*	3
Belladonna	1
Extract	217
" Fluid	57
Liniment	1
Ointment	27
Pellet's "Hom"	2
Plaster	26
Tincture	155
Benzoin	4
Tincture	2
" Comp	12
Berberine	2
Berberis Aquifol Ext. Fl	9
Bergamot, Oil	13
Birch	1
Tincture	2
Bismuth, Citrate and Amm	1
Liquid	12
" and Hydrastis*	4
Sub-Carbonate	420
Sub-Nitrate	376
Black Strap (Treacl.)	1
Black Wash	14
Blistering Tissue (French)	1
Bloodroot	1
Extract Fluid	5
Tincture	8
Brandy	87
Brayera	2
Bromidia*	15
Bromo-Chloralum Solution*	1
Bryonia, Extract Fluid	1
Tincture	2
Buchu	3
Extract Fluid	299
Eucalyptus, Ext. Fld	1
Infusion	2
Tincture	11
Cacao Butter	51
Cactus Grandiflora	14
Tincture	
Cadmium Iodide, Ointment	2
Caffeine	6
Bromo (efferv.)	37
Citrate	38
Calabar Grains*	1
Cajeput, Oil	6
Liniment Comp	33
Calamus	4
Tincture	4
Calcium, Carbonate, prep	21
" precip	37
Chloride	51
Iodide Syrup	15
Lactophosphate Syrup	5
Phosphate	2
Sulphide	7
Calendula, Tincture	8
Calumba	1
Extract Fluid	37
Infusion	7
Tincture	79
Camphor	69
Liniment	12
Liniment with Chloral	9
Tincture	123
Monobromated	25
Canella	1
Cannabis Indian, Extract	58
" Fluid	8
Tincture	30
Cantharides	1
Cerate	9
Plaster	11
Tincture	68
Capsella, Tincture	2
Capsicum	112
Extract	1
Plaster	5
Tincture	83
" Comp	1
Caramel	11
Cardamom, Tincture	10
" Comp	110
Cardnus Benedictus, Extract	2
Carot-Fruit, Extract Fluid	1
Cascara Sagrada, Cordial	26
Cascara Sagrada, Elixir	12
Extract	5
" Fluid	156
Cascarilla, Tincture	3
Castanea, Extract Fluid	1
Castor Oil	42
Emulsion	1
Castoreum	2
Tincture	1
Castoria*	2
Cataria, Extract Fluid	1
Catechu	12
Tincture Compound	83
Caulophyllin "resinoid"	2
Caulophyllum, Extract Fluid	3
Cedar Oil	1
Celerina*	24
Celery Seed, Extract Fluid	1
Compound	5
Cerate, Simple	59
Cerium Oxalate	46
Chalk Mixture	93

*Proprietary.

	Total.
Charcoal	15
Chenopodium	4
Oil	9
Chinoidin	2
Tincture	2
Chionanthus, Extract Fl	1
Tincture	2
Chirata, Tincture	1
Chloral	373
Croton	2
Chlorodyne	8
Chloroform	231
Liniment	21
Spirit	45
Chrysarobin	2
Cimicifuga, Extract	2
" Fl	43
Tincture	19
Cinchona	3
Decoction	5
Extract (cold prep)	8
" Fluid	46
Tincture	104
" Comp	223
Cinchonidine	2
Salicylate	6
Sulphate	537
Cinchonine	2
Sulphate	11
Cinnamon	13
Oil	14
Syrup	5
Tincture	15
Cleavers	2
Cloves, Oil	8
Coca, Extract	4
" Fluid	12
Wine	2
Cocaine Hydrochloride	6
Cocalac*	1
Cochineal	4
Tincture	11
Codeine	11
Cod Liver Oil	3
Emulsion	17
Cod Liver Oil, miscel prep	6
Coffee Syrup	3
Colchicum Root, Ext. Fl	5
Tincture	1
Wine	35
Seed	2
" Extract Fluid	19
" Tincture	12
" Wine	111
Cold Cream	13
Collinsonia, Ext. Fl	9
Collodion	17
Cantharidal	2
Colocynth	2
Extract Comp	532
" Fluid	1
Coniine	1
Conium, Extract	23
" Fluid	13
Tincture	2
Convallaria, Ext. Fl	12
Tincture	1
Copaiba	146
Capsules	4
and Cubebs Capsules	4
Mixture*	1
Oil	1
Syrup*	21
Copper Acetate, Tincture	6
" Sub	10
Oxide Black	3
Sulphate	23
Corn Silk, Extract Fluid	16
Tincture	1
Corydalis, Extract Fluid	2
Cosmoline*	324
Carbolated	25
Coto, Extract	5
" Fluid	5
Cotton Root Bark Ext Fl	20
Cotton—Absorbent	16
Borated	4
Carbolated	10
Styptic	3
Crab Orchard Salt	2
Creasote	11
Croton Oil	15
Liniment	12
Cubeb	23
Extract Fluid	47
Oil	15
Oleoresin	10
Tincture	79
Cypripedium, Ext. Fl	1
Cynosbat, Fungi, Tinct	1
Damiana, Extract Fluid	9
Delphinium, Tincture	11
Dextrin Syrup	11
Digest Powder*	7
Digitalis	35
Extract	12
" Fluid	21
Infusion	16
Tincture	196
Digitaline (Alkaloid)	5
Dragon's Blood	1
Dracontium	1

	Total.
Duboisine (Alkaloid)	1
Dulcamara, Ext. Fl	8
Dyspepsyn*	2
Egg, Yellow	2
Elaterium	4
Elæosaccharum	9
Electuarium	3
Elixir, Adjuvant	5
Ammon. Bromide	6
" Valer	46
Anti-Rheumatic	3
Aromatic	2
Bark and Iron	250
Bark, Iron and Strych	21
Buchu and Pareira Brava	1
Bismuth	80
" and Pepsin	34
" Pepsin & Strych	1
Calisaya	48
" and Bismuth	2
" Bismuth and Iron	12
" " & Strych	1
" and Iron	39
" Iron & Strych	26
" & Hypophos Co	2
" Protox of Iron	7
" Pyrophos Iron	2
Cascara Sagrada	17
Celery Comp	1
Chloral Comp	2
Chloroform Comp	4
Gentian	5
" and Iron	27
Glycyrrhiza Aromatic	16
Guarana	2
Hops	3
Iodo Brom Calc Comp	50
Iron and Arsenic	2
" Quinine	3
Iron, Quinine & Strych	143
" and Strych	13
Lactopeptine	21
Laxative Comp	1
Malt	1
Orange Peel Co. Ph. G.	13
Pepsin	10
" and Bismuth	11
" Bismuth & Strych	17
" and Strychnine	2
Potassium Bromide	232
Purgans	1
Quinine & Strychnine	1
Quinquinia	3
Rhamnus Frangula	3
Rhubarb & Magnesia	1
Simple	309
Sodium Salicylate	1
Taraxacum Comp	14
Tonic	30
Viburnum Comp	1
Ergot "Corn," Ext Fl	4
Ergot	7
Extract	41
" Fluid	370
" " Normal	1
Ergot, Tincture	6
Wine	1
Ergotin	48
Erigeron, Ext Fl	1
Oil	5
Erythrophloeum Ext Fl	1
Eserine	2
Ether	62
Spirit	2
" Comp	61
Acetic	3
Chloric	8
Nitrous Spirit	506
Ethyl Iodide	1
Eucalyptol	2
Eucalyptus, Cordial	1
Elixir	2
Extract	2
" Fluid	15
Oil	8
Eupatorium, Ext Fluid	2
Fennel Oil	3
Food, Mellin's*	3
Murdock's*	2
Frangula	2
Cordial	2
Ext Fl	9
Syrup	1
Fuchsine	2
Galangal	3
Gamboge	2
Garlic Syrup	1
Gaultheria Syrup	1
Oil	58
Gauze, Carbolated	9
Gelsemin (Resinoid)	4
Gelsemium, Ext Fl	83
Tincture	84
Gentian	11
Extract	67
" Fluid	37
Infusion Comp	9
Tincture	50
" Comp	167
Geranin "Resinoid"	2
Geranium, Extract	1
" Fluid	30

	Total.
Ginger	34
Extract Fluid	33
Syrup	221
Tincture	81
Glucose	1
Glycerin	850
Boro	5
Nitro	1
Ointment	1
and Starch	2
" Soap	1
" Tar	2
" Tannin	2
Glycyrrhiza	28
Extract	71
" Fluid	128
Powder Comp	81
Syrup	204
Mixture Comp	4
Gold & Sodium Chloride	1
Grindelia, Ext. Fluid	4
Guaiac	14
Ext Fluid	2
Tincture	15
" Ammon	7
Troches	1
Guarana	1
Extract Fluid	10
Haarlem Oil	1
Hamamelis, Ext Fluid	26
Spirit	16
Hedeoma Oil	
Helianthemum, Ext Fluid	2
Helleborus, Extract	1
Helonias, Ext Fluid	2
" Comp	1
Hemp Seed Emulsion	4
Hemlock Oil	3
Hemorrhoidal Lotion*	2
Hippocastanum, Tinct	1
Cerate	2
Honey	27
Hops	8
Extract Fluid	24
Tincture	4
Hunyadi Janos Water	1
Hydrangea, Ext Fluid	3
Lithiated*	1
Hydrastis	14
Fluid*	43
Extract Fluid	134
Tincture	52
Hydrastin, "Eclectic"	16
Sulphate	7
Muriate	4
Hyoscyamus	1
Extract	415
" Fluid	69
Tincture	87
Oil Infused	6
Hydrogen Peroxide	2
Hydrolein*	1
Ingluvin*	20
Injection Brou*	1
Iodia*	3
Iodine	84
Ointment	2
" Comp	7
Tincture	95
" Colorless	29
" Comp	17
Iodoform	93
Ointment	8
Ipecac	325
Extract Fluid	14
Infusion	2
Syrup	343
Tincture	8
Wine	45
Iris, Floreutina	5
Versicol, Ext Fluid	13
Irisin, "Resinoid"	2
Iron, Acetate Tincture	15
& Ammonia Mixture	1
Arseniate	8
Aromatic Mixture	3
Iron, Bromide Effervs	1
" Syrup	1
Carbonate	36
" Mass	7
" Saccharated	11
Chloride Solution	1
" Tincture	288
" " Tasteless	4
Citrate	14
Dialysed Sca'es	1
" Solution	75
Ferrocyanide	15
Iodide Syrup	54
Lactate	11
Nitrate Solution	11
Nitrogenized*	3
" Digital. & Cherry	2
Malated Tincture	1
Mixture Compound	4
Oxalate	2
Potassium Tartarate	22
Pyrophosphate	17
" Syrup	1
Quinine Citrate	188
" and Strych	1

*Proprietary Compounds.

	Total.
Iron, Reduced	89
Sulphate	49
" Exsiccated	14
" Sub Solution	27
" Sub	3
" and Ammonia	1
Wine	1
Jalap	17
Powder Comp	4
Extract	30
" Fluid	1
Resin	3
Jesuit Mixture	3
Juglans, Extract	5
" Fluid	4
Juniper, Extract Fluid	58
Oil	2
" Empyr	3
Spirit	17
" Comp	2
Tincture	1
Kamala	2
Kino	1
Tincture	40
Krameria, Extract	1
" Fluid	7
Tinctnre	4
Konsso	2
Lactopeptine*	106
Lactucarium	3
Syrup	3
Lard	62
Benzoated	2
Lappa Root	1
Extract Fluid	28
Lavender, Oil	4
Spirit Comp	110
Lead, Acetate	167
" Sub Solution	64
" " Liniment	2
" " Ointment	3
Carbonate Sub	4
Nitrate	6
Iodide Ointment	1
Plaster	3
Lemon, Oil	5
Spirit	3
Syrup	143
Leonurus, Ext. Fluid	13
Leptandra, Extract	1
" Fluid	22
Leptandrin, "Resinoid"	23
Lettuce, Extract Fluid	7
Lime Water	215
Linseed	27
Oil	21
Lithium, Benzoate	3
Bromide	21
Carbonate	1
Salicylate	1
Listerine*	119
Lobelia	1
Seed	3
Extract Fluid	12
Tincture	77
Lupulin	33
Extract Fluid	13
Syrup	1
Lycopodium	3
Macrotin, "Resinoid"	9
Magnesia	50
Asafœtida Mixture	2
Milk*	2
Magnesium, Carbonate	25
Citrate Gran	29
" Solution	17
Sulphate	81
Male Fern, Oleoresin	5
Malt, Extract "Beer"*	1
" U. S. Ph	63
" with Iron	1
" " Hypophos	1
" " Alteratives	3
Maltine, with Phosphates*	1
Manaca, Extract Fluid	1
Manna, Syrup	3
Marrubium	1
Matico, Extract Fluid	1
Tincture	1
Meat, Extract*	1
Menthol	2
Plaster*	1
Mercury, Ammoniated	16
" Ointment	5
Chloride, Corros	212
" Mild	709
Iodide, Green	46
" Red	45
" " Oint	2
Mass	272
" powdered	4
Nitrate, Ointment	37
" Solution	1
Oleate	24
Ointment	41
Oxide, Red	55
" " Ointment	7
" Yellow	11
Tannate	1
Mercury, with Chalk	204
Mercurius Pellets, "Hom"	3
Methysticum, Ext. Fluid	16

	Total.
Mirbane Oil	1
Mixture, Basham's	1
Chalk	93
Cholera, Squibbs	6
" Sun	1
Dewees'	2
Griffith's Iron	4
Glycyrrh. Comp	6
Iron Aromatic	3
Neurotonic	5
Monarda Oil	1
Morphine	1
Acetate	25
Bi-meconate	1
Muriate	13
Oleate	12
Sulphate	818
Mossoline*	1
Musk	1
Tincture	12
Mustard	4
Leaves	1
Plaster	8
Myrica, Extract Fluid	8
Myrcia, Spirit	3
Myrrh	13
Tincture	26
and Capsicum Tinct	11
Naphthaline	4
Naphthol	2
Nutgall	5
Ointment	2
Tincture	4
Nutmegs	4
Spirit	1
Nux Vomica, Abstract	2
Extract	420
" Fluid	32
Tincture	222
Oak Bark, Extract Fluid	1
Oats, Tincture	5
Oenothera, Extract Fluid	3
Ointment, Simple	10
Tutiae	1
Wilkinson's	2
Olive Oil	119
Opium	393
Elixir*	6
Extract	104
Liquor*	4
Tincture	506
" Camphor	568
" Crocata	36
" Deodorized	223
Wine	31
Orange Flowers Syrup	8
Peel	1
" Ext. Fluid	18
" Oil	5
" Tincture	13
" Syrup	386
Origanum Oil	32
Ox Gall Inspissated	1
Pancreatic Emulsion*	8
Pancreatic Extract*	2
Pancreatin*	3
Pareira Brava Decoction	3
Ext. Fluid	16
Pepper, Black	7
Oleoresin	1
Oil	19
Peppermint	1
Oil	25
Spirit	30
Pepsin, Saccharated	393
Scale	21
Wine	386
and Wafer Ash*	18
Petroleum, Crude	3
Petrolatum	68
Carbolized	3
Phenique Glycero*	2
Phenoisodique*	3
Phosphorus	5
Phosphorated Oil	2
Phytolacca Root, Extract	1
" Fluid	7
Tincture	2
Physostigma, Extract	2
" Fluid	2
Tincture	2
Pill, Aloes and Iron	10
" " Myrrh	9
Aloin Comp	7
" Bellad. and Strych	18
Anti-Dyspeptic	12
" Gonorrhœa	2
" Malaria	2
" Neuralgia	1
Antimony Comp	3
Aperient	1
Cathartic Comp	84
" Improved	31
" Vegetable	3
Chalybeate	4
Cinchonidine Comp	1
Galbanum Comp	1
Emmenagogue	5
Hooper's	2
Hydrast. and Podoph	3
Iodoform and Iron	6
Iridin Comp	2

	Total.
Pill, Iron Carbonate	3
Iron & Nux Vomica	4
Iron, Phos. & Nux Vom	3
Iron, Quin. & Strych	22
Laxative	3
Neuralgia	19
Nux Vomica Comp	10
Opium and Camphor	4
Piperine Comp	1
Peptonic	1
Podophyllin Comp	12
Phosphorus Comp	5
" and Iron	3
" Iron, Quin & Strych	1
Quin, Aloes & Strych. Co.	6
" Comp	5
Rhubarb "	7
Strychnine	1
Tripiex	2
Pilocarpine, Muriate	6
Pilocarpus, Extract Fluid	11
Piperine	42
Pine Oil, "Scotch"	2
Pinus Canadensis, Ex. Fl	34
Podophyllin, Resin	103
Podophyllum	1
Extract	42
" Fluid	61
Tincture	1
Pomegranate, Bark, R't	1
Poppy Capsules, Syrup	4
Potassa, Caustic	1
" Liquor	35
Potassium, Arsenite Sol	173
Acetate	215
Carbonate	11
" Bi	111
Bromide	582
Citrate	39
" Sol	4
Chlorate	423
" Troches	3
Chloride	7
Cyanide	1
Ferrocyanide	4
Iodide	745
" Ointment	19
Lithiated Eff	2
Nitrate	37
Permanganate	14
Tartrate	1
" Bi	51
Sulphate	29
Powder Dueting, Anderson's	1
Aloes et Canella	2
Aromatic	13
Chalk Comp	1
" Arom., with Opium	15
Diaphoretic, King's	14
Dover's	594
James'	1
Jacobi	2
Liquorice Comp	91
Morphine "	2
Rhubarb "	1
Seidlitz	15
Tully's	7
Pulsatilla, Extract Fluid	1
Tincture	15
Pellet's "Homo"	1
Pumpkin Seed	3
Quassia	3
Extract	1
Infusion	2
Tincture	19
Quinine	1
Bromide	1
Dextro*	3
Muriate	36
Sulphate	1349
" Bi	79
Tannate	3
Valerianate	5
Raspberry Syrup	31
Leaves, Decoction	4
Resin	2
Cerate	27
Resorcin	3
Rhubarb	535
Extract	5
" Fluid	66
Syrup	41
" Arom	260
Tincture	64
" Aq	3
" Arom	8
Wine	6
Rhus, Aromatic, Ext. Fl	2
Rhusin, "Resinoid"	1
Rochelle Salt	59
Rose, Confection	2
Oil	4
Water Ointment	3
Geranium, Oil	4
Rosemary Oil	10
Rubus, Extract Fluid	1
Wine	1
Rum, Jamaica	2
New England	3
Rumex, Extract Fluid	53
Saffron	2
Sage, Infusion	3

	Total.
Salicine	50
Sal-Muscatelle*	1
Prunelia	1
Salep	4
Sambucus	1
Sandalwood Oil	6
and Copaiba	1
Oleoresin	1
Sanguinaria Syrup	1
Tincture	16
Sanguinarin, "Resinoid"	8
Santonin	58
Sarsaparilla	1
Decoction	1
Essence	3
Extract Fluid	37
" " Comp	30
Infusion	2
Syrup	33
" Comp	429
Sassafras	1
Extract Fluid	1
Oil	14
Savin	2
Extract Fluid	12
Oil	2
Scoparius Decoction	23
Extract Fluid	17
Scutellaria, Extract Fluid	5
Senecio, " "	8
Senega, " "	12
" Syrup	79
Senna	7
Confection	2
Extract Fluid	137
Infusion	1
Serpentaria	1
Extract Fluid	2
Tincture	3
Sheep Laurel, Extract Fluid	2
Silver Nitrate	41
" " Fused	5
Smart Weed, Ex. Fluid	2
Soap Powder	9
Green	4
" Tincture	8
Liniment	96
Soda Mint Lozenges	1
Sodium, Benzoated	4
Bi-Borate	72
Bromide	109
Bi-Carbonate	246
Carbonate	11
Chlorate	2
Chloride	15
Choleate	1
Citrate	18
Hypophosphite	1
Hyposulphite	2
Iodide	116
Nitrate	61
Phosphate	21
Salicylate	208
Sulphate	37
" (Carlsbad Salt)	7
Sulphite	11
Sulphocarbolate	3
Solution, Bismuth & Hydrast.	8
Burrows'	20
Donovan's	12
Fowler's	173
Spearmint Oil	1
Species, St. Germain	2
Spermaceti Cerate	1
Ointment	5
Sperm Oil	1
Spigelia, Extract Fluid	4
& Senna, Ext. Fluid	3
Spirit of Fruit	2
Spike Oil	1
Spruce Oil	1
Squill	5
Extract	5
" Fluid	19
Oxymel	2
Syrup	97
" Comp	186
Tincture	36
Vinegar	3
Starch	9
Stillingia, Ext. Fluid	23
" " Comp	9
Syrup Comp	49
Stone Oil	1
Stramonium, Extract	10
" Fluid	1
Ointment	2
Tincture	11
Leaves	1
Strychnine	27
Nitrate	1
Sulphate	133
Styrax Liquid	5
Succus Alterans*	7
Sugar	146
Milk	68
Sulphur	125
Precipitated	12
Ointment	10
Sumbul, Extract	1

*Proprietary Compounds.

	Total.
Syrup, Depurativus	4
Dover's Powder	14
Hydriodic Acid	6
Hypophos. Comp	125
" with Quinine, Strychnine & Manganese	
Iodo Phenique*	8
Lactophosphate	2
Phosphate Comp	1
Rhubarb and Potass	25
" " Senna	1
Senna and Manna	42
Simple	886
Wheat Phosphates	6
White Pine Comp	38
Svapnia*	10
Syzygium Jambolonium	
Decoction	1
Talcum	3
Tamarinds Decoction	3
Tamar Indien*	1
Tannin Glycerite	2
Tansy Oil	2
Tar	5
Ointment	1
Barbadoes	1
Oil	5
Soap	1
Syrup	11
Compound	1
Tartarus Boraxatus	2
Taraxacum	4
Extract	57
" Fluid	134
Tincture of Antecreda	1
Tobacco	2
Oil	1
Tolu Syrup	401
Tonga, Extract Fluid	2
Tongaline*	16
Turpentine Oleoresin	2
Oil	172
Venice	4
Tragacanth	43
Traumaticin	1
Trillium, Extract Fluid	1
Tincture	1
Triticum Rep. Ext. Fl	14
Tropic Fruit Laxative*	1
Thyme Oil	7
Thymol	3
Tutia Ointment	1
Ulmus	36
Uva Ursi, Extract Fluid	74
Leaves	4
Valerian	3
Extract Fluid	43
Tincture	31
" Ammon	5
" Ethereal	1
Vanilla Tincture	4
Vaseline*	37
Carbolated	1
Veratrine	12
Veratrum Viride, Ext. Fl	3
Tincture	46
Verbascum Ext. Fluid	3
Viburnum, Ext. Fluid	33
" " Comp*	36
Warburg's Tincture	1
Water	2198
Anise	13
Almond	6
Camphor	107
Caraway	9
Cherry Laurel	51
Cinnamon	153
Cologne	7
Elderflower	1
Fennel	31
Orange Flowers	30
Parsley	3
Peppermint	242
Rose	232
Spearmint	7
Wintergreen	18
Wax, Yellow	1
Whisky	384
White Physic	1
Wheat Phosphates*	4
Wild Cherry Bark	1
Extract Fluid	84
Syrup	275
Tincture	3
Wine, Aromatic	1
Bitter	1
Beef & Iron	19
" " and Lactopep	24
Claret	1
Madeira	2
Port	32
Sherry	31
Wintergreen Oil	58
Spirit	16
Syrup	4
Xanthoxylum, Extract Fluid	17
Tincture	1
Yerba Santa, Ext. Fluid	22
Syrup	3

	Total.
Zinc, Acetat	41
Chloride	18
Cyanide	1
Iodide	1
Oleate	1
Oxide	287
Zinc, Oxide Ointment	79
" " Comp	1
Phosphide	6
Sulphate	386
Sulpho Carbolate	6
Valerianate	2

OINTMENTS.

In various ointments of the U. S. P. commented upon by R. Rother in the Am. Jour. Pharmacy, ointment of oxide of zinc is said to undergo a change soon, no matter how much benzoated. Various additions are recommended to prevent decomposition. White wax and spermaceti were observed to give better results than wax alone. By the use of stearic acid the ointment is said to present a much finer grain, stearate of zinc probably being formed. The value of benzoin in the officinal ointment is questioned, owing to the liability of its acids—benzoic and cinnamic—combining with the oxide of zinc and becoming inert. To aid in giving a fine grain, the addition of powdered starch is recommended, and the following formula presented as yielding the most satisfactory results: Take of

Zinc oxide	Troy ounces	4
Starch, pulverized	" "	½
Spermaceti	" "	½
White wax	" "	1
Lard	" "	14
Balsam tolu	grains	120

Triturate the oxide of zinc with about three-fourths of the powdered starch, and sift the mixture with a No. 80 sieve. Rub the coarse portion remaining on the sieve with the rest of the starch, and pass it all through the sieve. Melt the wax and spermaceti with half an ounce of lard, and then gradually add the remaining lard. Now add the balsam to the fused fat, and apply heat for 15 to 20 minutes not exceeding 60° C. of temperature, and then decant the fluid portion. Pour this gradually upon the zinc oxide mixture, stirring it well meanwhile, and when all the fused medium has been incorporated, stir the mixture occasionally until the ointment stiffens.

With white petrolatum a magnificent ointment is produced, but owing to the relatively greater cost of the fatty medium, the ointment becomes too expensive for general sale.

[The process recommended in this journal, 1884 p. 85, for preparing an oxide of zinc ointment with petrolatum (the officinal), furnishes a very superior product at a cost less than that prepared with simple lard. The zinc oxide is triturated in a warm mortar with portions of the petrolatum, previously melted, until all is added. The liquid mixture is then strained through a No. 80 sieve, the liquid being returned until all the conglomerated particles have passed through; it is then stirred until cold. Editor W. D.]

Mercurial ointment, although not generally made by the pharmacist, when prepared according to the Pharmacopœia contains 50 per cent. of mercury, and is then much too hard for convenient use. This fact has given rise to the common use of the 25 per cent. ointment, and as that is the strength usually vended, a form of this proper consistence should be officially recognized. Mr. Rother thinks that petrolatum would be a desirable substitute, preferable, to some extent at least, to the hard and odorous suet.

Editorial.

We present in this issue a review of 15,000 prescriptions taken from the proceedings of the Illinois Pharmaceutical Association. In glancing over this exhibit one must be impressed with the many substances employed in medicine, and, more especially the many forms of these that physicians deem necessary or desirable to make use of. As might have been expected, quinine sulphate leads in the number of times prescribed (except water as a solvent) quinine being an ingredient in nearly ten per cent. of all the prescriptions mentioned. Morphine sulphate and potassium iodide were each used in one mixture out of every twenty, while carbolic acid ranks in about the same proportion, or five per cent. of the total. Calomel and compound extract of colocynth are not very far behind, which goes to show that they are yet regarded as the staple cathartics.

We have no desire to enter into comparisons in detail here, but the compilation brings out prominently some facts which go to prove the correctness of certain views often advocated in these columns. The most conspicuous of these is the great number of elixirs in general use, exceeding fifty kinds, the different and widely separated locations represented showing no material variation. Among these elixirs, Calisaya iron and strychnine, and potassium bromide, are each represented to the extent of two per cent. in the total, while many others are frequently prescribed.

Among fluid extracts we find that of cascara sagrada ranks next highest to those of ergot and buchu, thus greatly outnumbering the other eighty-five officinal fluid extracts, though without being officially recognized. Here is where the real value of compilations of this character appears. They disclose accurate information regarding the remedies employed, and indicate the forms which seem best suited for administration. The present compilation, though far from complete, gives a very fair idea as to the wants in the northern, central and southwestern sections of the State of Illinois, and as it is proposed to add to the report each year from all sections of that State, data of substantial value are anticipated. A good beginning has also been made in California and in Brooklyn, N. Y., and if the States generally would follow their example we should have before long what Dr. Eccles has aptly termed an autographic record of prescriptions. A statistical exhibit of this character would, moreover, be an incontrovertible index of pharmacy as practiced throughout the land. In order to facilitate such compilation the tabulator of the Illinois report, who has done his work in an exceedingly thorough manner, is prepared to furnish specimen sheets to those who may wish to avail themselves of the tabular arrangement.

The adulteration of drugs, as well as nearly all other articles of merchandise, is an evil which has been the subject of much investigation, without, however, so far effecting the real object in view. This object should be primarily to ascertain the cause, and next to locate its origin. The desire to buy at lowest prices is no doubt largely responsible for the degradation of qualities. The responsibility, however, has always been shifted from the wholesale dealer or manufacturer to the retail dealer, and from him in turn to the consumer. In fact, it is very difficult to determine who are chiefly responsible. But when the purchaser is familiar with the cost of a certain kind of merchandise, knows the lowest price for which a pure or full strength article can be obtained, and yet insists on buying it at a price below that at which a good article can be furnished, then the situation is quite different, and in the case of food or medicines the act becomes essentially criminal in character, and the purchaser, if not the dealer, should be subjected to severe discipline by law. Bearing upon this point we abstract the following from the report of the Committee on Adulterations of the Illinois Pharmaceutical Association:

"As long as the retail dealer persists in fixing the price or refusing to pay the price of pure goods because other goods bearing the same name at least can be bought less, just so long will these articles of inferior or adulterated character be found in the market." The committee reports that after examining a large number of substances every shade of quality was discovered, the inferior at times greatly predominating. In fifteen samples of crude carbolic acid examined, for instance, none approximated more than eight per cent. of phenol, though the requirements of the Pharmacopœia are that it should be eighty per cent. In answer to a communication a manufacturer replied "that the dealers would not pay the price, and that the quality had therefore to be governed by the market."

This probably is a fair illustration of one of the chief causes of the prevalence of inferior qualities. When relief from this evil will come is, however, entirely problematic; intelligent and honest buyers must do their utmost to force the issue, and demand recognition of the evil by law-making bodies. It is high time something were done when we find the greed for low prices and cheap goods controlling the purchases of the mighty U. S. Government, one of whose fiscal representatives has just awarded a contract to a New York wholesale *grocery* firm for 100,000 compound cathartic pills in one hundreds at *eight* and *one-half* cents per hundred! What a magnificent example for its citizens to follow. To buy a job lot of pills from a grocer is bad enough, but to accept a quality based on a price fully twenty-five per cent. below bare cost (without reckoning vials, which were possibly included free) argues corruption and criminal intent. If the pills were sold as U. S. P. the fraud would be all the more glaring.

THE Federal Supreme Court has declared against the constitutionality of statutes imposing a discriminating tax upon non-resident traveling salesmen.

The court held that a discriminating tax imposed by a State operating to the disadvantage of the products of other States when introduced in the first mentioned State is in effect a regulation in restraint of commerce among the States, and as such is a usurpation of the power conferred by the Constitution upon the Congress of the United States. The Supreme Court of Michigan held that the tax imposed by the act is an exercise of the police power of the State for the discouragement of the use of intoxicating liquors and the preservation of the health and morals of the people. The Supreme Court of the United States holds that this would be a perfect justification of the act if it did not discriminate against the citizens and the products of other States, and thus usurp one of the prerogatives of the national legislature.

It will be noted that the decision has reference to a dis-

criminating tax which applies to non-resident merchants but not to citizens of the State. A law which taxed citizens and outsiders alike would not contravene the decision. We believe too much importance has been credited to the practical value of this decision. Unconstitutional laws of this character are being enforced by local courts every day, and there is little reason to believe the particular kind in question will prove an exception. Moreover, the States where a discriminating tax on travelers exists at the present time are usually of the non-commercial class, and can therefore make the tax general without material difference to its citizens, since they include very few "drummers" or itinerant salesmen.

The Iowa Pharmaceutical Association, in recommending amendments to the State Pharmacy Act, failed to indorse the proposition abolishing diploma distinctions in the law. If the Association is anxious to stir up a perennial hornet's nest for the Commission of Pharmacy, it has started in precisely the right way. With State medical and pharmacal institutions, medical colleges of all degrees and colleges of pharmacy of every shade all clamoring for recognition, the Commission of Pharmacy will be reduced to the necessity of devoting much valuable time to examining the colleges which should be given to examining the men. A college graduate who cannot pass a Board examination is as much unfit for registration as a young man who has never enjoyed the blessing of such "education." Why, then, discriminate? If the purpose be simply to increase the salaries of professors in our colleges of pharmacy, it is defensible; but if the amendment be designed to elevate the standard of our colleges and to promote the more thorough and practical education of graduates, it is a treacherous delusion. We believe in encouraging colleges, but only such colleges as have the integrity, confidence and courage to let their graduates stand before the law upon their individual merits; not such schools as in their educational weakness plead for existence through the gratuitous admission of their alumni by the back door of a Commission or Board. The question involves, also, the direct supremacy of the State authority over all registrations, and the principle of equal rights under the law to all competent men, regardless of how or where their education was obtained. The Iowa draft is certainly in need of further amendment.

The United States Supreme Court has decided that cartons are not subject to duty. This decision may have a bearing on the circular recently issued by a Washington law firm, asserting that druggists have certain claims against the Federal Government, which the firm desired to prosecute. If cartons are not subject to duty, then large sums must have been illegally collected on importations of toilet goods and other druggists' specialties, especially from England and France. The decision of the Supreme Court, which was on an appeal from the United States Circuit Court favorable to the Government, was entirely unexpected by the customs department, and will entail reclamations at the New York custom house alone, amounting, the appraiser says, to at least $15,000,000, and perhaps $20,000,000. The collector at that port declares the decision to be the most serious embarrassment that ever occurred in the customs administration. It means a very serious deficit in the income which Secretary Manning had counted upon to meet the expenses of the fiscal year, and, further, an immense amount of money will have to be refunded to importers.

The acquittal of Mr. Am Emde, the Hoboken druggist whose error several months since in dispensing morphine for quinine caused the death of two young ladies, and who was tried on the charge of manslaughter, grates harshly on the nerves of several of our contemporaries, who appear to think his offense sufficiently heinous to have justified his being drawn and quartered. The absence of any criminal intent, the previous faultless record of the unfortunate druggist and his unquestioned skill as a dispenser constitute no mitigating circumstances in the judgment of these editorial censors: the intensity of his anguish over the calamity which drove him to the verge of suicide, is no atonement for the error, but he must need be convicted as a murderer in order to do proper service as a "terrible example" to other druggists, and in order to quiet the apprehensions of the public as to the responsibility of dispensers of medicine. Druggists are of that coarse and brutal fiber, it would appear from this logic, that they fail to comprehend the sacredness of human life except as it is indicated by the halter or the penitentiary. Mr. Am Emde was acquitted simply because a jury of the people believed him to be wholly innocent of criminal intent, and that for his deplorable dispensing error, he had been and would be sufficiently punished by the mental torture he had endured, and which would darken the remaining years of his life.

We have on several previous occasions noted the curious fact that certain of our super-esthetical medical contemporaries can see little of value in American literature until it comes back to them arrayed in the majesty of a foreign tongue. The article in this journal, about a year since, by Mr. George McDonald, of Kalamazoo, on the bitter principle in aloes, was passed by in silence by the journalistic flunkeys, but no sooner does it appear (without credit) in the Moniteur de la Pharmacie, November, 1885, as the production of "Dr. Macdonald," assumed by these gentry to be, no doubt, a "furriner" of noble degree, than it becomes something quite marvelous, suitable for the very choicest page in our most royal contemporaries. The traditional "fool killer" has, it is evident, failed to give our exquisite medical editors due attention of late.

The eighth number of Lloyd's "Drugs and Medicines of North America" fully sustains the high character this work has deservedly attained. The meagre and unsatisfactory information heretofore accessible to the students of pharmacology constituted a necessity for some such thorough and accurate knowledge as the present work affords. A commendable feature of the series is the absence of that high and often fanciful coloration of illustrations characteristic of most other treatises in this field, which, though grateful to the eye, are apt to prove misleading and disappointing. It has been suggested with reason that the interval between successive numbers is too long to be wholly satisfactory.

A new American scientific publication is to be sent forth from the laboratory of physiological chemistry of the Sheffield Scientific School of Yale College, under the supervision of Prof. R. H. Chittenden.

Progress of Pharmacy.

A NEW HÆMOSTATIC PREPARATION (Liquor hæmostaticus) is obtained by Dr. Rothe from the nettle Urtica dioca with rectified spirit. The brownish green tincture obtained by maceration possesses marked hæmostatic properties.

IODIDE OF POTASSIUM, according to Dr. Hasslin, is more advantageously administered in slightly acid solutions than in ordinary water, and recommends its administration in artificial carbonic acid water as an iodide of potassium mineral water. The strength can be regulated according to circumstances, the most convenient for ordinary purposes being about one or two grams of the salt to a common-sized mineral water bottle.

AS A SOLVENT FOR BINIODIDE OF MERCURY Mehu highly recommends castor oil in the proportion of one gram to fifty of oil. The addition of iodide of potassium adds to this solubility. Lard only takes up grm. 4½ to 1,000, and vaseline grm. one to 4,000. Carbolic acid warmed to 212° F. dissolves about twenty grams in 1,000, but half of this is precipitated on cooling. At ordinary temperature benzin dissolves four grams in 1,000.

TO MAKE FEHLING'S SOLUTION, M. Schmiedeberg (Sch. Wochenschrift xxiii, p. 400) recommends the use of mannite instead of Rochelle salts, on the ground that it insures stability to the solution. Following is the formula: Dissolve 34.682 grams of crystallized copper sulphate in 200 C. c. of water; to this solution add a solution of 15 grams of pure mannite in 100 C. c. of water and 480 C. c. of solution of caustic soda (1.145) and sufficient water to make 1 liter.

COMMERCIAL SULPHATE OF MORPHINE, five samples of which were analyzed by Albert E. Brown (Am. Jour. Phar.) were found to vary somewhat in the amount of water and sulphuric acid it contained, as well as in its solubility in water. The percentage of water varied from 7.8 to 8.5, the variation in sulphuric acid ranging from 13.46 to 13.59 per cent., and variations in solubility from 20.4 to 21.66 per cent., those containing the most water being correspondingly more soluble in water, as a rule. These variations are slight, and due probably to difference in methods of manufacture.

VANILLIN, made artificially for some time from the juice of the cambium layer of various species of the coniferæ has also been made from the resin of the olive tree, a process for which has lately been patented. It depends upon the oxidizing action of permanganate of potassium on the resin when warmed in the presence of an alkali. The liquor is then super-saturated with sulphuric acid and the vanillin separated by means of ether or by distillation with steam. Vanillin seems to replace the natural vanilla used in confectionery very satisfactorily; ten parts are considered equal to 500 parts of the finest vanilla bean.

THE ROOT OF DANAIS FRAGRANS, which has been used for many years by the natives of Madagascar, has been undergoing a new examination by Heckel and Schlagdenhauffen, who find that so-called alkaloid danaidine of Bourdon to be crystallized sulphate of calcium. The root contains a fine yellow juice, to the coloring principle of which its action is due. By precipitation with neutral solution sub-acetate of lead they attained a red brown coloring principle which they termed danaine, having the formula $C_{11}H_{14}O_5$. When pure it is greenish brown, soluble in methyl and ethyl alcohols, acetone and boiling water, slightly in chloroform and ether.

TEST FOR OIL OF PEPPERMINT.—The following has been recommended by Fritsche Brothers: To detect dementholized oil of peppermint a test-tube nearly filled with the suspected oil is well corked and inserted in a freezing mixture of snow and salt, equal parts. If pure, it should, after a lapse of ten or fifteen minutes become thick, turbid and opaque, and upon shaking with a few crystals of pure menthol and again inserting in the freezing mixture, it should be transformed to a firm crystalline mass, after a very short time. If the oil remains liquid or semi-liquid, it is deficient in menthol either because of being abstracted from it or being adulterated.

METHYL ALCOHOL OBTAINED FROM THE WATER DISTILLED FROM GREEN PLANTS amounts to about one part for every 200,000 parts of the plant used ordinarily. In the process from thirty to forty pounds of green herbs are covered with about twice their weight of water, and about one-fourth distilled off; several such distillates are subject to fractional distillation in proper apparatus; distilling one-tenth each time until the final product measures from one-half to three quarters of an ounce for every eighty pounds of herb used, an excess of carbonate of sodium is added, from the solution of which the alcohol separates. Whether the alcohol exists previously formed in the plant or is a product of some complex reaction during the distillation, has not been determined.

SACCHARINE AS DISCOVERED by Dr. Fahlberg is not, according to Dr. Stutzer (D. A. Apoth-Ztg.), a carbo hydrate, but a benzoic acid derivative, and the first sweet material derived synthetically from coal tar. It is a white powder, sparingly soluble in water, but a solution of 1 in 10,000 still retains an intensely sweet taste, and a not unpleasant almond-like after-taste. To test the inocuity of saccharine, various chemico-physiological experiments were instituted by Stutzer, which shows that it does not impair the digestibility of protein compounds by the liquids of the stomach; it hastens the conversion of starch into sugar by the fermentative action of diastase only after fermentation has commenced, and prevents to some degree the fermentation of weak solutions of sugar. Fed to animals it seems to have no deleterious effect. This highly interesting substance is used as a sweetening material in the food of diabetic patients, and in medicines; also by confectioners and liquor manufacturers. Various saccharine manufacturers are making a saccharine pill for diabetic patients, containing about three-quarters of a grain of saccharine, one or two of which are sufficient to sweeten a cup of coffee; also a chemical combination of quinine and saccharine, called quinine-saccharine confectionery, containing one part of saccharine to from 1000 to 2000 of glucose, has a pleasant taste, as has also certain liquors under like circumstances. Its indiscriminate use as an adulterant of sugar is not probable, owing to its manufacture being protected by a trademark, and its being easily detected because of its solubility in ether. In consequence, however, of the present cheap production and universal use of glucose in this country, it will probably find a wider field of application as a sweetening addition.

Queries and Formulæ.

WE cordially invite queries for this department on any subject of pharmaceutical interest. Correspondents will give their name and address, but initials only will be printed when desired. It is especially requested that they furnish such information as they may already possess on the subject embraced in their queries. Queries cannot be answered by letter. Communications for this department should be addressed to Editor of the WESTERN DRUGGIST, 69 Dearborn Street, Chicago.

22. ANTIPYRIN VS. ANTIPYRINE.

S. J. R. (Philadelphia ,Pa.) inquires if antipyrine should be written with a final *e*. It is written both ways. To conform to our official nomenclature for alkaloids, it should be written with a final e, as in quinine, morphine, etc. Since, however, antipyrine appears to be a trade-marked name, its termination is not a matter of public concern.

23. BISMUTH SALICYLATE.

C. F. H. (Youngstown, O.). The preparation of bismuth salicylate by double decomposition has been denied by Rosengarten, but L. Wolff (Am. Jour. Phar., November, 1883) subsequently gave a formula for its preparation from a solution of crystallized bismuthous nitrate in glycerin, decomposed by a concentrated solution sodium salicylate with the formation of bismuthyl salicylate, sodium nitrate, free nitric acid, salicylic acid and water, which were removed by washing with water, then with hot water, and finally with alcohol. The salicylate may possibly be prepared from some other salt of bismuth—for example, the citrate, rubbed into a cream with water or neutralized with ammonia water, and then decomposed with salicylic acid or one of its compounds. We have found this method practicable in preparing oleate of bismuth.

24. RED FRUIT COLORING.

G. H. Calkins (Waupaca, Wis.) desires an artificial red fruit coloring for mineral water. A harmless coloring of any desirable shade of red, and at the same time reasonably permanent, is produced by tincture of cudbear and caramel in various proportions. Tincture of cudbear may be made by macerating two ounces of cudbear in one pint of diluted alcohol, and filtering.

25. WHAT IS A TEASPOONFUL?

C. R. D. (Milwaukee, Wis.) inquires the "size" of a teaspoonful. He says the teaspoons now in use certainly hold more than one fluid dram. Yes. Of late years the capacity of teaspoons has increased very materially. By measuring a large number of them from different makers, we find that the average capacity is 80 minims, or one-third more than one fluid dram. This is true, however, only when the spoon is filled to the level of the edge. A spoon which held 80 minims of water up to its edge was found by actual experiment to hold 40 minims more of water, or 2 fluid drams, without running over. The measure of teaspoons should be regulated.

26. CORN SALVE.

P. L. A. (Kalamazoo, Mich.). We are unacquainted with the composition of the salve you mention (Hanson's) which, although very successful, we believe not as effective as the salve made from copper oleate. This is the principal constituent of the once famous Krause's "Green Gum" corn-plasters, made in Philadelphia. Oleate of copper is made by decomposing a warm solution of Castile soap (2×10) with a solution of copper sulphate (1×10). It *is* quite hard, and should be fused and incorporated with petrolatum or other oleaginous substances, to give it the required consistence.

27. BITTER WINE OF IRON.

F. M. B. (Lock Springs, Mo.) desires a formula for "bitter wine of iron" easy of application. Bitter wine of iron is officinal in the U. S. P. '80, the formula being quite simple. It is as follows:

Take of

Solution of citrate of iron and quinine	fl. drams 17
Syrup (simple)	fl. ounces 10

Mix, and add

Tincture sweet orange peel	fl. ounces 4
Stronger white wine	" " 16

previously mixed; filter through paper. This wine represents a strength of about 2 grains of quinine and 15 grains citrate of iron and ammonium to the fluid ounce. It is quite grateful to the taste, but soon becomes very unsightly, in consequence of the discoloration gradually produced from the tannin in the wine and tincture of orange by the iron. To prevent this the wine should be detannated previous to using, or, better still, the mixture of wine and orange tincture. This is best effected, when the wine is to be used for iron preparations, by agitating with a small quantity of freshly-prepared ferric hydrate. (For the preparation of the latter see U. S. P.) Wine may also be detannated by the addition of gelatin or isinglass, in the same way as "coffee" is clarified. Albuminous substances may also be used, such as egg-white or condensed milk. By either process the wine is simply left in contact with the agent for a day or two, with frequent agitation, then decanted or filtered.

28. DISCOLORED WINE.

Bacchus (Madison, Wis.) inquires how the natural color of wine which has become very black, owing to the discoloration produced by inserting an iron faucet in the barrel, may be restored. This query is partly answered in No. 27, but the black coloration is no doubt due to tannate of iron in solution, which is not removed to any extent by the agents there recommended. We suggest that the process of decolorization be employed by filtration through animal charcoal. Charcoal alone may not be effective, unless in contact with the wine for a longer period, but with the addition of magnesium carbonate, nearly all the iron may be removed. Into a cylindrical percolator place a layer of equal parts of granulated animal charcoal and powdered magnesium carbonate, several inches high. Allow the wine to percolate slowly, returning the first portions until it runs clear. The only objection to this process is that the acid in the wine may combine with the magnesium and form salts soluble in the wine, as citrate, etc. The acidity of most wines, however, is not so great as to cause much difficulty in this particular; besides, the contamination, if at all present, would be small, and of a character to cause little apprehension.

29. STANDARD SOLUTION OF STRYCHNINE.

Subscriber (Carbondale, Ill.) desires the formula for a solution of strychnine frequently prescribed as Fleming's. The solution of strychnine recommended in both of the

Dispensatories is of the strength of four grains of strychnine alkaloid to the fluid ounce. The following is the formula:

Take of

Strychnine	grains	4
Acid hydrochlor. dil	"	6
Water	fl. drams	6
Alcohol	"	2

Dissolve.

This is the solution mostly in use, we believe, for dispensing purposes, but for prescribing, Hall's is most frequently employed, which contains 1 grain strychnine to the fluid ounce dissolved in acetic acid and 25 per cent. alcohol colored red. We are not unacquainted with "Fleming's" solution. In view of the fact that many formulas exist for solutions of unequal strength, it is best that the strength rather than the name be used to indicate the particular solution desired.

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30. HAIR RESTORER.

J. F. L. (Chicago, Ill.) asks what will restore the hair to its natural growth. To promote growth where the roots have not been destroyed many mixtures have been used, composed chiefly of stimulating tinctures and oils perfumed to suit. One of the most effective of these, possessing the additional advantage in that by its use the scalp may be kept clean when employed in the form of a shampoo, was published in this department some years ago, and we reproduce it now for the benefit of new subscribers:

Arnicated Glycerole of Cantharides.

Ammonium carbonate	dram	1
" hydrochlorate	"	1
Salicylic acid	grains	20
Water sufficient to make	ounces	8

Dissolve, and add the following previously mixed:

Tincture arnica, tincture cantharides, alcohol, each	oz.	2
Glycerin	"	1
Cologne water	"	1

Filter through magnesium carbonate until clear. This preparation is said to stimulate the growth of the hair, rendering it at the same time soft and glossy in appearance. It should be used in small quantities night and morning, being well rubbed into the roots of the hair with the ends of the fingers. Owing to the cantharides, discretion must be employed when used on women or children

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31. WHAT IS "FLAKE WHITE."

C. T. B. (Lancaster, O.) asks the chemical name and formula of "flake white." "It has," he says, "been the subject of considerable discussion, and in the absence of any reference thereto in the works at our disposal we ask the W. D. to decide." Our correspondent is correct in stating that no reference to flake white is made in the standard works, its absence being notable also in the Dispensatories. The substance sold as flake white is nothing more or less than white lead (lead carbonate, for formula see U. S. P.) presumably of better quality than the commercial article and sold at a higher price. No doubt great quantities of this "stuff" are sold for cosmetic purposes simply because neither the seller nor consumer is aware of its true character. The Dispensatories should give the synonym under carbonate of lead.

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32. QUININE PRESCRIPTION.

J. H. Losee, Indian Orchard, Mass., inquires how a clear solution may be made by the following:

℞

Quininæ sulph	℥i
Acid sulph. dil	gtts. x
Ferri citratis sol	℥i
Aquæ *ad.* q. s.	℥iv

Misc.

The difficulty consists in the iron being precipitated by the sulphuric acid. The quinine salt should be dissolved in two ounces of water by the aid of the acid, then the citrate of iron in the remainder of the water and rendered slightly alkaline. The two solutions are then mixed and neutralized. But it is doubtful if this expedient will wholly prevent precipitation. A better way is to substitute for the citrate of iron four fl. drams of the tincture of citrochloride of iron, the so-called tasteless tincture of iron, or some potassium citrate may be added to the first mixture.

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33. LISTERINE.

C. B. (Springfield, Ill.) desires the formula for the above. The following is said to give a formula closely approximating it:

Take of

Acid boric	drams	2
" benzoic	"	2
Dissolve in Water	ounces	64
Fluid ext. baptisia	drams	4
Menthol	"	2
Oil eucalyptus	"	8
" gaultheria	"	½
Dissolve in Alcohol	ounces	64

Mix the two solutions and filter through magnesium carbonate. The use of fluid extract baptisia prevents a colorless preparation in which respect it differs from the original. This can only be avoided by distilling the baptisia with water, and the distilled extract thus obtained used instead of the fluid extract.

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34. INDELIBLE MARKING INK.

Jno. Bartholomew (Elmira, N. Y.) desires a formula for an indelible marking ink which does not require any heat. The following fulfils all the requirements except possibly that of expense(?).

Take of

Asphalt in pieces	ounces	2
Benzol	"	8

Dissolve, then add

Coal tar	"	8

Mix.

In using the ink, employ an ordinary pen, and if it should be too thick, thin it with a little oil of turpentine. This ink does not spread, and requires no heating. It never fades nor is it affected by anything under the sun.

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35. ACETIC ACID "NO. 8."

A. E. Fck'bner (Ree Heights, Dak.) desires to be informed what is intended by the designation "No 8" acetic acid and the strength of such acid.

"No. 8" acetic acid is another convenient trade designation introduced by manufacturing chemists to enable them to sell articles below the Pharmacopœial requirements. The only acetic acids officially recognized are the 36 per cent. and the diluted, containing 6 per cent. of absolute acid. The empyreumatic acids sold as "No. 8" contain usually about 28 per cent. of acid, but vary considerably, though invariably dubbed No. 8. This acid is unfit for internal administration, and should always be replaced by an acid having the official strength and purity.

86. "SWEET CORASSA" ONCE MORE.

M. C. (Arlington, Dak.,) sends a circular of the famous Bible House prescription," with a request for information concerning it. From the circular we learn that the chief of patent medicine frauds is now doing business under the name of W. A Noyes, Rochester, N. Y. The prescription is of the "cipher" order, intelligible only to the parties concerned in the knavish conspiracy against the public and reputable druggists. Its essential constituents have, however, been published in honest English by Dr. A. B Lyons, as follows:

Powdered gentian.....	about	15 parts
Powdered licorice.....	"	15 "
Powdered sugar.....	"	50 "
Sodium bicarbonate.....	"	17.5 "
Powdered cochineal.....	"	2.5 "

With each package of about four ounces, half a pint of Jamaica rum or Holland gin, is to be used.

Compare this with the "cipher" formula, and the rare lucidity of the latter becomes strikingly apparent:

Extract Asiatic Cannabis Sativa.....	oz.	2
Extract Asiatic Halish Sativa.....	"	3
Verbena Hastata.....	dr.	2
Extract Diosma.....	"	3
Pulv. Cinchona Bark.....	oz.	2
Extract Cashgar Leaves (blood root)..	"	3
Inulin.....	dr.	1
Loaf sugar.....	lb.	1
Rum or gin.....	half pt.	
Cold water.....	one pt.	

The circular informs us that "were it not for the extreme low prices [$3.00, exclusive of 'sugar, rum or gin,'] as originally established by Dr. Stevens, and the fact that those prices are so well known, his remedy could be placed on sale in every drug store in the country, but the *margin of profit is so small* [italics ours.—ED. W. D.] that apothecaries cannot be induced to keep it." Some apothecaries, however, appear to be willing to sacrifice themselves in so noble a cause, as we learn from a preceding paragraph that "to get the prescription properly compounded you will go to the best botanic drugstore in your vicinity." "*None but a botanic druggist,*" the circular naively adds, "will be found to keep all the articles, as some of them are in the line of the botanic school exclusively." Who and what a "botanic druggist" is may be inferred from the subjoined list as it appears in the circular with the introduction: "The remedy may be found with the following druggists:" [If the name of any druggist in the list appears without his consent or previous knowledge we shall take pleasure in noting the fact in our next issue.]

J. G. Horton, M. D., Whitesville, N. Y.
N. W. Stiles, Batavia, N. Y.
I. C. Dubois & Co., Mobile, Ala.
George H. Hughes, Little Rock, Ark.
George S. Walt, Sacramento, Cal.
J. H. Klock, New Haven, Conn.
Dunagan & Miller, Denver, Col.
Z. James Belt, Wilmington, Del.
J. Snider Noell, Washington, D. C.
Osceola Butler, Savannah, Ga.
Buck & Rayner, Chicago, Ill.
Browning & Sloan, Indianapolis, Ind.
E. S. Ballard & Co., Davenport, Iowa.
G. A. Eddy, Leavenworth, Kan.
Alford Newhouse & Co., Louisville, Ky.
I. L. Lyons, New Orleans, La.
I. C. Gibson, Portland, Me.
Louis Senft & Co., Baltimore, Md.
Joseph P. Brabrook, Chicago, Ill.
T. & F. Hollis, Boston, Mass.
John Harvey, Detroit, Mich.
Geo. J. Mitsch, St. Paul, Minn.
J. P. Gilmore, Minneapolis, Minn.
T. & E. Catlin, St. Louis, Mo.
C. F. Goodman, Omaha, Neb.
Tibbets Bros., Manchester, N. H.
Wm. T. Mercer & Sons, Newark, N. J.
John H. Daniel, Atlanta, Ga.
Emmert & Burrell, Freeport, Ill.
Chas. C. Hagenbuch, Mahanoy City, Pa.
B. V. B. Livingston, Brooklyn, N. Y.
Gerity Bros., Elmira, N. Y.
T. J. McKinney, Olympia, Washington Ter.
J. E. Smith, Sterling Run, Pa.
W. R. Carmichael, Bellville, Ont.
Dr. T. J. Casper, Springfield, O.
L. D. Richardson Warden, P. Q.
Diffenbacher & Davidson, Ogdensburg, N. Y.
Schott & Colby, Houston, Tex.
Mehringer Bros., Jasper, Ind.
Gardner Bros., Palmyra, N. Y.
D. L. Witmer & Bros., Philadelphia Pa
John Beeshan, Cincinnati, O.
C. S. Mackenzie & Co., Cleveland, Ohio.
J. S. Friezell & Co., Dayton, Ohio.
J. N. Reed, Toledo, Ohio.
S. G. Skidmore & Co., Portland, Oregon.
Daniel S. Jones, Philadelphia, Pa.
H. P. Schwartz, Alleghany, Pa.
Sadosa S. Stevens, Reading, Pa.
G. W. Amar & Co., Charleston, S. C.
G. W. Jones & Co., Memphis, Tenn.
J. J. Schott & Co., Galveston, Tex.
B. W. Carpenter & Co., Burlington, Vt.
William H. Scott, Richmond, Va.
J. M. Alcott & Son, Milwaukee, Wis.
J. A. Clippenger, Plainfield, Ill.
F. W. & A. M. Schueller, Columbus, Ohio.
T. P. Curry, Danville, Ky.
Frank B. Smith, Duluth, Minn.
W. H. Henderson & Co., Humiston, Ia.
L. R. Newhouse, Pharisburg, Ohio.
Overstreet & Sluder, Schell City, Mo.
Cobb & Homan, Decatur, Texas.
S. Hamilton, Roseburg, Oregon.
M. Crowther, Kansas City, Mo.
H. H. Meyer, Sleepy Eye, Minn.
W. S. McCullough, Wheeling, W. Va.
Chas. F. Lottinville, Papineau, Ill.
W. W. Forry, Waterloo, Iowa.
J. S. Talcott, M. D., Conway, Iowa.
Montanus & Garwood, Springfield, Ohio.
White & McDonald, La Grange, Ind.
Crooker & Son, Taylorville, Ill.
Hardaway & Cassel, Vicksburg, Miss.
C. V. Baxter, DeWitt, Iowa.

We extremely regret to see in the above many honored names, which we hope to be able to vindicate by evidence proving that their published association with the noisome fraud is as absolutely unwarranted as the circular itself is poisonous and false.

38. PRESCRIPTION DIFFICULTY.

E. W. T. (Delhi, La.) inquires if the following should be dispensed:

℞ Hydrarg chlor. mite.....		ʒi
Sodii bicarb.....		ʒss
Lactopeptine.....	grana	xl
Bismuthi subnit.....	"	xx
Mit. ft. chart.....	No.	viii

When freshly prepared there would not be much danger in the above compound, but the acid in the lactopeptine may eventually cause the formation of bichloride of mercury by acting upon the calomel. The amount of hydrochloric acid in the lactopeptine does not exceed 2½ per cent. of U. S. P. acid, or one grain in the above quantity. The sodium bicarbonate may possibly also retard the change. Under the circumstances we should not hesitate to dispense it, but would caution against using the compound after its having been prepared about thirty days.

39 TINCTURE CHLORIDE OF IRON.

A. M. Gray (Avoca, Ia.) asks if the addition of water in the preparation of the tincture of chloride of iron is regarded as objectionable. We think not; at least, not pharmaceutically. By substituting one-third part of alcohol ordered with water a more permanent solution is obtained. While we do not believe the therapeutic efficacy of the tincture would thereby be diminished, proof of this would be desirable.

40. PARIS GREEN.

By referring to the National Dispensatory you will find that "Paris green" is arsenite of copper, a very poisonous substance. It is also called "Schweinfurth's green," after its discoverer.

41. TOOTH WASH.

M. O. B. (Kankakee, Ill.): We have not the exact formula of "Jewsburys & Brown's Oriental Tooth Paste," but the following are English, and may be tried:

TOOTH PASTE.

The following is a good and simple formula:

Cream of tartar, levigated.....	grams	200
Sugar of milk.....	"	200
Carmine, No. 40.....	centigrams	40
Essence of peppermint.....	"	1

Make into a paste with a mixture of 75 parts honey and 25 parts glycerin.

Another good formula is:

Carmine	parts	2
Precipitated chalk	"	150
Powdered orris	"	50
" soap	"	150
Oil of peppermint	"	15
" cinnamon	"	¼
Glycerin	q. s.	

"HAYDEN'S VIBURNUM COMPOUND."

M. O. B.: Of the "Viburnum Compound," we have no reliable formula. It is probably a preparationof "cramp bark."

42. MORPHINE VS. QUININE.

[Editor Western Druggist:]

In treating of mistakes in dispensing from habit I would like to make a suggestion. When I replaced the dram vial of morphine with the one ounce bottle I also at the same time replaced the one ounce bottle of quinine with a five ounce can. The difference between the containers for the articles are therefore more strongly marked than before. C. A. STARR.

DURAND, ILL.

43. SYRUP SQUILLS COMP.

[Editor Western Druggist:]

I notice your reply in January number of WESTERN DRUGGIST to query of A. Lernhart on syrup squills comp. I follow the U. S. P. '80 in making this syrup, with this exception; I allow the liquid to become cold, and then filter; in this way the albuminous matter is left on the filter. The sugar is dissolved in the filtered liquid, without heat; then the antimony and potassium tartrate added to the syrup. The result is a permanent and clear syrup squill comp. L. M. DRAKE.

JUNEAU, WIS. Feb. 1.

[This is substantially the method suggested in the article under consideration.—ED. W. D.]

44. ELIXIR SALICYLIC ACID COMP.

(For Rheumatism.)

Take of

Salicylic acid	grains	160
Citrate potassium	drams	4
Glycerin	fl. oz.	2
Elixir simple, sufficient	" "	4

Dissolve the potass. cit. in glycerin by a gentle heat; then add the acid, continuing the heat until dissolved; then add sufficient simple elixir to make 4 fl. ounces. Each fl. dr. contains 5 grains salicylic acid. The dose, as prescribed by physicians here, is from one to two teaspoonsfuls, to be lessened when the head roars much. J.

(Editor Western Druggist.)

Please inform me of the address of Edward Wilder, Kentucky (sarsaparilla and potassa mixture), or some wholesale firm who keep this preparation.

DR. C. E. BERNHARD.

EUDORA, KAN.

[Wilder is a druggist in Louisville, Ky., and we suppose the wholesale dealers there, Arthur Peter & Co., have it. —ED. W. D.]

45. SEA FOAM.

(Editor Western Druggist.)

In your last number is a formula for Sea Foam. Let "Subscriber" Waukegan, Ill. use this formula and I think it will prove satisfactory:

℞

Glycerin	ounces	1
Aqua ammonia	"	2
Alcohol, 95 per cent.	"	16
Aquæ q. s. ft.	"	32

M.

This is my formula, and barbers here will use no other; it can be perfumed if so desired. J. H. LOSEE.

Indian Orchard, Mass.

46. DISGUISING THE ODOR OF IODOFORM.

(Editor Western Druggist.)

I notice in the December issue some notes on "Disguising the Odor of Iodoform." I think I can submit another superior to any yet published. It is simply to add a few drops of acid carbolic. B. FERGUSON.

DUNWILLIE, ONT.

74. "FOUR CHLORIDES."

(Editor Western Druggist.)

I notice in your January number a query for "Four Chlorides." The following is a formula furnished me by Dr. B. F. Baer, University Hospital, Pa., in 1882.

℞

Hydrarg. chlorid. corros.	gr. i
Liq. arsenici chlorid.	f℥i
Tr. ferri chlorid.	
Ac. hydrochloric dil.	aaf℥iv
Syr. simpl.	f℥ii
Aquæ q. s.	f℥vi

M. S. Two teaspoonsful in water after meals.

PHIL. H. DILG.

155 LA SALLE ST., CHICAGO.

We are pleased to receive the above. The correspondent, we may add, was formerly a member of a once famous society known as "The Diastase," and made some important contributions to that organization. We welcome him back to the pharmacal ranks.

We are indebted to the following for responses respecting the "Four Chlorides." E. H. Baker, Williamsport, Pa; Madison Reece, M D., Abingdon, Ill.; G. M. Foskett, M. D., North Dana, Mass.; J. W. Nelson, M. D., Springfield, O. The formulas are nearly identical with that given above, except that from Dr. Nelson, which is more concentrated than the others.

48. THE STRENGTH OF A TEN PER CENT. TINCTURE.

(Editor Western Druggist.)

In the May number, page 128, of this department appeared an article entitled "The strength of a ten per cent. tincture in U. S. weights and fluid measure," from which the following is an extract: "Obtain the weight of one pint of the menstruum, alcohol (94), by multiplying the specific weight (.820) by the weight of one pint of water, thus: .820×7302—5987.6. To this add the difference in specific gravity of the quantity of drug held in solution (which is in this instance the whole amount employed), after 10 per cent. has been deducted, or 598 less 10 per cent.,—539, which multiplied by .180 (difference between sp. gr. of alcohol and water), is 97; adding 97 to 5987.6—6084 grains, which should be the specific weight of the finished tincture, 10 per cent. of which gives us 608 grains, as the quantity of drug in one pint."

According to the U. S. Dispensatory, which reads, "Balsam Tolu, *ten parts* (or three ounces av.); Alcohol, *a sufficient quantity*, to make *one hundred parts* [or two pints]," we would have 1312.5 grains of the tolu in the two pints, or *656 grains* in *one pint*. Again, the specific weight of tincture of tolu being .852, we obtain the weight of one pint of the finished tincture thus: .852×7302—6221 grains; 10 per

cent. of this or *622 grains* is the amount of tolu in one pint of the tincture. Now, according to the first solution, or yours, we have *608 grains* in the pint; by the second, or that of the U. S. D., *656 grains*, and by the third, or that calculated from the sp. gr. of the tincture, *622 grains*. This shows a variation of 48 grains. Will you please explain why these differences exist? C. M. B.

MECHANICSBURG, ILL.

In the article referred to by the correspondent a purely theoretical attempt was made to fix the strength of a 10 per cent. tincture prepared parts by weight as expressed in grains to the pint. The result, as shown by subsequent calculations, was somewhat too low, but yet much more nearly correct than the strength as given in the Dispensatory. By first obtaining the correct specific gravity of the tincture it is an easy matter, however. The sp. gr. as given by our correspondent (.852) is nearly correct, except that it has probably been taken at a temperature of 70° F. By now taking the weight of one pint of water at the *same* temperature, namely, 7,290 grains, we obtain the number of grains in one pint, viz.: 621 grains. This must be absolutely correct; the sp. gr. of the tincture carefully prepared has been verified.

49. MILKINESS OF TINCTURE OF OIL PEPPERMINT.

M. B., (Princeton, Wis.) The milkiness of a tincture made of oil peppermint and alcohol (even though filtered) has frequently been noticed, but we have seen no explanation. This defect may usually be remedied by making the essence according to the official directions in the Pharmacopœia, according to which the peppermint herb used to impart a green color also clarifies the preparation.

FORMULAS.

(Translated from Dietrich's Manual.)

LIQUID RENNET.

Rennet stomach	grams 100	Chlor. of sodium	grams 30
Distilled water	" 540	Boric acid	" 20
Alcohol	" 60	Filter paper, cut	" 10

The rennet stomach is finely reduced with some appropriate meat chopper and moistened with a mixture of the alcohol and water in which the salt and boric acid have previously been dissolved and then mixed with the paper.

This mixture is transferred to a narrow-mouthed bottle, well corked and allowed to macerate, with occasional stirring, for about four weeks (well protected from the light) at the ordinary temperature of the room. The supernatant liquid is poured off and filtered, returning the first turbid portions of the filtrate until it ceases to be turbid. The filtrate is preserved in small vials which should be well corked and sealed, and protected from the light. The resulting liquid will weigh about 500 grams, 1 fluid dram being sufficient for 1 quart of milk.

RENNET POWDER.

Rennet stomach	grams 100	Powdered sugar of milk	grams 60
Chlor. of sodium	" 20		

The stomach is reduced by chopping to a semi-liquid consistence and the expressed juice thoroughly mixed with the other ingredients. The mass is spread in thin layers upon glass plates and dried at a temperature between 35° and 40° C, in a drying closet. The resulting scales reduced to the finest possible powder, are then mixed with sufficient milk sugar to make 100 grams. It should be preserved in well stoppered bottles; 15 grains is sufficient for 2 pints of milk.

PURGATIVE TAMARIND LEMONADE.

Extract of tamarinds (Helfenberg)	grams 30	Raspberry syrup	grams 25
Distilled water	" 300	Bicarbonate of soda	" 2

Dissolve the extract of tamarind in the water; filter into an appropriate bottle containing the syrup, and lastly add the bicarbonate of soda without shaking, and cork quickly, securing the cork with a string. A mineral or citrate of magnesia bottle makes a good container. This preparation is a pleasant and agreeable laxative.

LEMONADE WINE.

Tartaric acid	grams 5	Sherry wine	grams 250
Alcohol	" 25	Distilled water	" 675
Syrup of orange fl'rs	" 50		

Mix the liquids and dissolve the tartaric acid, filter into 3 twelve-ounce bottles, to each of which add 80 grains of bicarbonate of soda, cork quickly and secure the cork with a string before shaking. The spirit can be substituted by cognac, if a finer preparation is wanted.

LEMONADE BONBONS.

White sugar	grams 800	Alcohol	grams 200
Bicarbonate of soda	" 100	Oil of lemon	minims 5
Tartaric acid	" 100		

Rub the solids to a fine powder to which add the alcohol and oil of lemon; transfer the soft moist mass to common chocolate moulds of the capacity of 20 grams which have previously been oiled with coca butter; the forms are then transferred to a drying closet and quickly dried. The dried cakes are easily removed from the moulds and preserved in waxed paper, one of which when dissolved in a glass of water, furnishes an agreeable lemonade.

The manufacture of bonbons from various fruit ethers is to be deprecated, in place of which might be recommended for an orange flower flavor, 2 drops of oil of neroli for the above quantity of ingredients; for an apple flavor, 5 drops of oil of sweet orange; for rose, 2 drops of oil of rose, and for raspberry-lemonade bonbons, 5 grams of essence of raspberry (Helfenberg's) may be employed. The red coloring for the rose and raspberry may be obtained by the addition of small quantities of a tincture made of 20 grams of malva flowers with five grams of tartaric acid and 100 grams of alcohol.

LEMONADE DROPS.

Citric acid	grams 50	Oil of lemon	minims 5
Pow'd gum Arabic	" 100	Diluted alcohol	q. s.
White sugar	" 850		

The solids are powdered and mixed, to which add the oil and sufficient dilute alcohol to form a plastic mass capable of being rolled out and cut into 1 gram lozenges. The same variety and quantity of flavors may be used as in the making of lemon bonbons. The above makes a very salable article.

LEMONADE POWDER.

Tartaric acid	grams	25
White sugar	"	975
Oil of lemon	drops	5

Add the oil of lemon to the mixed powders by trituration. To make variously flavored powders the same flavor may be used and in the same quantity as in the preparation of the different bonbons. To make the raspberry-lemon powder, the sugar is first triturated with 5 grams of raspberry essence (Helfenberg's) and sufficient quantity of tincture of malva to color, then dried in the air and the acid afterward added.

DR. PIERCE'S FAVORITE PRESCRIPTION.

According to Hager this contains: Savin, 10 grams; agaric, 5 grams; cinnamon, 5 grams; Peruvian bark, 10 grams. Make a decoction of 200 grams, and add: Gum arabic, 10 grams; sugar, 5 grams; tinct. digitalis, 2 grams; tinct. opii, 2 grams; oil anise, 8 gtts. Dissolve the gum, sugar and oil in 45 grams of alcohol.

NOTES FROM GERMANY.

BY DR. O. LOEW, MUNICH.

COCAINE has been found to be an excellent remedy in sea-sickness; dose 0.02 g.

LAST WEEK occurred in Berlin three cases of poisoning with sulphuric acid, which happily was so diluted that the would-be suicides (servant girls) were saved.

THE QUANTITY OF ASHES IN CINNAMON BARK has been determined by Hilger, who found it varying from 3, 4—to 8 per cent. indifferent samples; also the composition of the ashes varied to some extent.

A PATENT has recently been granted to A. E. Schaal, Stuttgart, which aims at the conversion of petroleum in a series of fatty acids by oxydation in contact with heated soda, and the preparation of ethers and soaps from these acids.

RECENTLY a specimen of tinfoil was analyzed by Hilger, and found it to consist of 95 per cent. lead and only 5 per cent tin. Poisoning by tinfoil is therefore by no means impossible, inasmuch as such a product is easily oxydized.

THE COCAINE preparations of commerce are often found to be impure. In order to test for purity dissolve in cold concentrated sulphuric acid. This solution must remain *colorless* or slightly yellowish. A *red* coloration proves the impurity of the preparation.

THE presence of glycogen—a carbohydrate hitherto found almost exclusively in the animal kingdom—has been demonstrated in fungi by Leo Errera. These fungi are especially: Tuber melanosporum, Tuber aestivum, Peziza vesiculosa, Phyromyres nitens.

IT HAS been frequently observed that milk becomes blue upon standing some time. Exact investigations have demonstrated the presence of certain bacteria that produce this color. It can be prevented by disinfecting well the localities where the milk is kept, by burning sulphur once or twice a week.

IT IS well known that often solutions of morphine turn green after standing some time. The change is due, according to Bernbeck, to the access of traces of ammonia; he recommends therefore adding a little hydrochloric acid and keeping the medicine bottle well closed and outside the sick room.

E. JAHNS has demonstrated the presence of several alkaloids in the seeds of Trigonella Foenum graecum, viz., of cholin, of trigonellin, and of a third one not sufficiently investigated. Trigonellin was found to have the formula $C_7H_7NO_2$, and to crystallize in prisms that are soluble in water and hot alcohol.

RENEWED experiments with *thallin* made in Stuttgart hospital have given just as satisfactory results as those carried on in Prague and Berlin. It was shown that thallin in doses of 0.25 to 1.0 gram is a surely and exactly acting antipyreticum without any disagreeable by-action or after-action, as observed with kairin. The thallin (mostly applied as sulphate) is also superior to antipyrin, of which large doses are required.

TO DETECT TRACES OF ERGOT IN FLOUR mix ten grams of flour with twenty grams of ether, and add ten drops of dilute sulphuric acid (1:5) and let the mixture stand one day at ordinary temperature. Then filter and wash the contents of the filter with a little ether and add to the filtrate ten to fifteen drops of the saturated solution of carbonate of soda. If ergot be present a violet color will be produced. It is also very easy to detect ergot microscopically. Treat a portion of the flour (four to five grams) with an aqueous extract of malt at 40 to 60° C. until the diastase has converted all the starch into sugar and dextrin; let them settle well and examine the sediment with the microscope for the characteristic fungus fibers that are easily found, even if only 0.01 per cent. of ergot is present in the flour. Good service is also rendered by the application of iodine and sulphuric acid (cellulose reaction) upon these microscopical objects; the ergot-cellulose does not turn blue, but yellow-brown.

FOR DETERMINING the value of the extract belladonna Kufz recommends treating with alcohol, adding alkali to the evaporation residue of the alcoholic solution, and then to extract with ether and chloroform. These solutions are again evaporated and treated with very dilute sulphuric acid, and the alkaloid extracted from this solution by chloroform after addition of ammonia. The German extract yields an average 1.8 per cent.

MANY dispensing errors have occurred of late—some with fatal consequences—among them morphine being used for calomel, a case almost incredible if you consider the widely different specific gravities. As a means to prevent such errors an electrical apparatus is recommended, manufactured by Schuch & Wiezel, Berlin. This apparatus is connected by wires with the bottles containing poisons, and starts a bell ringing as soon as a bottle is taken away.

THE CHEMICAL industry of Germany suffers seriously at present from over-production and the prices of sulphuric and hydrochloric acids, and of the sulphates, etc., are very low. The business of manufacturing aniline and naphthaline colors, as well as of alizarine is also much lessened. The former large export trade in these articles received a serious check by the establishment of similar factories in England. The glycerin industry is also in bad shape.

A NEW BASE FOR OINTMENTS, called Lanolin, has recently come into use. This is a yellowish wool-fat with about 30 per cent. of water, and can take up 100 per cent. of it. It is very easily absorbed by the skin, is not liable to rancidity, and is very durable. It yields fine milk-like emulsions with a little carbonate of soda, and contains a certain quantity of cholesterin. The factory of Taffe and Darmstadter, at Charlottenburg, manufacture Lanolin in a very pure state.

A FACT unknown heretofore—the poisonous character of a mollusk—was made known by a very serious accident that happened in Wilhelmshafen. Fourteen persons ate at one meal a quantity of muscles (Mytilus edulis) (a mollusk heretofore believed to be edible) and all of them soon afterward became very ill; four of them died. Upon closer examination the mollusk was found to differ but slightly from the ordinary edible muscle, and the presence of an alkaloid-like substance was discovered.

BALSAM COPAIVA is often found adulterated with fatty or volatile oils. In order to discover the former, evaporate the balsam upon the water bath until it becomes hard and brittle—like resin. If it remains sticky after a long time, and after cooling, it contains some fatty oil. To discover an admixture of colophonium treat the resinous remainder of evaporation of the balsam at ordinary temperature with ten times its weight of alcohol (70 per cent.); filter after one hour and pass dried hydrochloric acid gas through the liquid; no yellow resin should separate; if it does colophonium is present.

THE URETHAN, of which I reported to you in one of my former letters, continue to give very satisfactory results and as this substance may soon find its way into the American drugstores, I may mention some of the characteristic qualities in order to enable the reader to test for purity

etc. The melting point is between 49° and 50° C.; the boiling point at 170° C. It is at ordinary temperature soluble in one part of water, in 0.6 part of spirits of wine, in 0.6 part of ether, in 1.3 part of chloroform, in 3 parts of glycerin, in 20 parts of olive oil. Heated with a little concentrated sulphuric acid, it must yield strong effervescence from development of carbonic acid.

SOME EXCITEMENT in pharmaceutical circles was produced some weeks ago by a petition to the government to grant full liberty in regard to the establishment of new drugstores. Here in Germany, as you know, many restrictions exist in this regard, and the opening of new drugstores is only permitted by the government when it believes it to be an absolute necessity. This state of affairs may be very agreeable for the proprietors, but the young pharmacist who wants to establish himself and has not sufficient funds to buy an old existing drugstore (which by the by are naturally highly expensive!) finds these laws rather uncomfortable. Hence a number of young men in Cologne started a movement to do away with these restrictions. That they will succeed is doubtful, for the German Apothecaries' Association is a very powerful organization.

FOR some time now the subject of pharmaceutical education has been much discussed in Germany. There are quite a number of prominent pharmacists who maintain that a student of pharmacy ought to have passed the whole of the "gymnasium;" this institution has eight classes, and you have to translate there from morning to evening, from week to week, from January to December, Greek and Latin, Latin and Greek. You study very minutely what Livius, Cicero, Ovid, Xenophon, Hippocrates, Plinius and other fellows of bygone ages have thought and meant to say, and when the student has absorbed all this and should flatter himself upon being a very learned man he suddenly realizes that for the practical affairs of life he is still as poorly equipped as a cow is to play billiards. The stubborn phllologists of Germany call that a "classical education!" Heretofore four classes—covering the same period—of the gymnasium were taken as *sufficient* to become acquainted with the *necessary* amount of Latin and Greek, and it is simply ridiculous to torture the would-be pharmacist another four years in order to stuff him with a useless mass of classical rubbish. The question was freely discussed at the meeting of the German Scientists' Society at Strassburg, and an excellent lecture delivered there by the well-known Prof. Flückiger, who declared the scheme to be extravagant, superfluous and senseless. Thus far we have no independent and separate schools of pharmacy as you have in the United States, but the student has, after three years of apprenticeship and three years' practice as assistant, to finish his studies by two years' attendance at the universities. I am glad to say that a movement is now in progress for establishing a school of pharmacy at Berlin.

DISPENSING ACCIDENT IN GERMANY.—A chemists' assistant was tried at the Hamburg Criminal Court on Dec. 30 last on the charge of having caused the death of a child aged six, by inadvertently substituting muriate of morphia for muriate of quinine in dispensing a prescription. The child, a little girl in delicate health, was suffering from fever for which a doctor ordered four powders, each containing muriate of quinine 0.25 gr., and sugar 0.5 gr., the receipt being copied on the box in which the powders were placed. Between 8 and 9 A. M. the child took two powders, and was soon after attacked by violent vomiting, followed by convulsions, ending in death, under symptoms of poisoning, such as contraction of the pupils of the eyes, nineteen hours after administration of the powders. Upon analysis the remaining two powders were found to contain each 0.25 gr. muriate of morphine, but a post-mortem examination failed to prove the presence of any traces of that substance in the body, though the brain showed signs of its action. Medical witnesses were called on both sides. In answer to questions whether a child having taken 0.5 gr. (7½ grains) morphine could survive for nineteen hours, and whether it would be possible to completely expel morphine from the stomach by means of vomiting and purging, the witnesses for the prosecution maintained that, although, as a rule, in cases of poisoning by morphine the drug would be found in the intestines, yet the absence of morphine would not preclude the possibility of death by morphine poisoning, and affirmed that the exceptionally long space of nineteen hours which intervened between the administration of the powders and death might be accounted for by the action of the poison having been weakened by the vomiting, by which part of the morphine would have been removed. Against this evidence was placed that of other physicians, who stated, one, that the child could not possibly have survived a dose of 0.5 gr. morphine during nineteen hours, and another that, although he was not prepared to say that morphine poisoning was not the cause of death, yet traces of the drug should have been found in the body. The accused was ultimately found guilty and sentenced to four months' imprisonment.—Chemist and Druggist.

RECENT GERMAN PUBLICATIONS.

[Ueber die Principien und die Granzen der Reinigung von Fauligen und Faülniss Fahigen Substanzen. By Dr. T. Koenig, Berlin.]

The author describes experiments that gave good results in the purification of putrid and polluted waters.

[Lehrbuch der Chemie für Pharmaceuten. By Dr. B. Fischer, Stuttgart.]

This work, as its title indicates, is a treatise on chemistry especially adapted to the wants of the pharmacist.

[Die Technologie der Fette und Mineraloele sowie der Harzoele und Schmiermittel. By Dr. C. Schaedler, Leipzig. Third part.]

This publication gives a description of fatty and mineral oils, their properties, practical application, inflammability, illuminating power, etc.

[Mikroscopie der Nahrungs und Genussmittel aus dem Pflanzenreiche. By Dr. Thos. Moeller, Berlin. Jul. Springer.]

This book is well recommended. It shows how to apply the anatomy of plants correctly upon the microscopical examination of articles of food and consumption. It contains nearly 300 drawings of microscopical sections.

[Chemische Reactionen zum Nachweise des Terpentinoels in den Ætherischen Œlen, in Balsamen, etc. By Hermann Hager. Berlin: J. Springer.]

This little work shows how to detect adulterations of valuable oils, especially admixture of spirits of turpentine.

[Handbuch der Pharmaceutischen Praxis. New edition. By Dr. H. Hager. Berlin: Jul. Springer.]

This handbook has reached a great circulation; it is a complete compendium of pharmaceutical science.

The largest pharmacy in the world is stated to be that of Waldemar Ferrein, at Moscow, where about seventy or eighty assistants are employed, and 700 to 800 prescriptions are dispensed daily.

Botany and Microscopy.

THE CHEMICAL DIFFERENCE BETWEEN LIVING AND DEAD PROTOPLASM.

At the last meeting of the British Association, Dr. Oscar Loew read an important paper on the chemical differences between living and dead protoplasm. Various hypotheses had been advanced to explain the remarkable differences in chemical activity between living and dead protoplasm, but no crucial experiments were made to test the validity of the theories until the author of the paper undertook the investigation of the subject in 1881. He started with the hypothesis that the albumen of living protoplasm contains certain aldehyde groups which account for its chemical activity, but that in dead protoplasm these groups disappear by atomic displacement. To test the validity of this hypothesis he experimented on a species of Spirogyra, the large cells and transparent cell-walls of which made it an exceptionally good plant in which to observe the chemical reactions. The aldehydes have the property of reducing silver salts when in alkaline solution, living cells therefore should give a reduction of the silver solution and dead cells should not. On treating a filament of the living plant with the silver solution a reduction took place, the protoplasm was darkened, its specific gravity increased, and silver was found deposited on its interior. A similar filament, however, that had been killed by an acid or by heat, and afterward treated in the same way, manifested no such reaction. The reaction was found to be a very delicate one, so small a proportion as one part of silver in 200,000, producing in many instances a distinct coloration. The experiments were extended to living wood cells, parts of leaves, tissues of animals, etc., with the general result of confirming the first observations, although in some instances the tests failed, owing to the presence in the tissues of chloride of sodium, or to other causes. Many experiments were tried also to prove that this reaction is due solely to the presence of aldehydes in the living protoplasm. Among the most convincing were the obtaining by analysis of reduced silver oxide from protoplasm that had been treated with the silver solution, and the fact that *hydroxylamine*, a substance that acts on all aldehydes, with great readiness, is found to be highly poisonous to all living organisms. We are a long way yet from unraveling the complex chemical activities of cells, but this investigation of Dr. Loew's appears to be an important step in that direction.

The January number of the Botanical Gazette contains a good portrait of the veteran botanist, Prof. Asa Gray. It will give great pleasure to many devotees of that science in this country who have never met Prof. Gray, but have long known and loved him through his works, now for the first time to see his face. The same number of the Gazette also contains an interesting account by Mr. C. R. Barnes of Prof. Gray's life and works.

In the same number, Messrs. Coulter and Rose give an interesting account, accompanied by illustrations, of the germination of the pollen grains of Tradescantia Virginica. The paper is too long to abstract, but it will interest every botanist who is familiar with Strasburger's demonstration of the two nuclei in pollen spores, and what is better, will enable him easily to verify for himself that naturalist's important observations. The results achieved by the authors are stated in the following conclusions:

"1. That in Tradescantia Virginica, by using the simplest appliances, and in a very brief time, the two nuclei of the pollen-spore, and their descent into the pollen-tube, can be demonstrated.

"2. That in this species the generative nucleus is a large worm-like spindle, and precedes the vegetative nucleus into the pollen tube."

There appears to have been started in New York City a craze for orchids which bids fair to eclipse the tulip craze that was at one time almost epidemic in Europe. A Mrs. Morgan of that metropolis made a collection of about 1,500 plants which are said to have cost her $200,000. For one rare and beautiful specimen, that of Vanda Sanderiana, obtained from the Phillipine Islands, she is said to have paid $2,000. Recently the collection was sold at public auction, and the plants brought all the way from one to nine hundred dollars each. Of course these plant-fanciers are few of them botanists, and very few study their pets in a really scientific way. But one result of the popular interest in this remarkable group of plants will be likely to redound to the advantage of science. It will bring nearer to the doors of the working botanist many tropical rarities that otherwise he might never hope to feast his eyes upon or have the opportunity to study.

Sir Joseph D. Hooker, the great English botanist, retired from the Directorship of the Kew Gardens in November after a service of twenty years. Prof. Gray also, we learn, has retired from the chair of botany in Harvard University, on account of advancing years and the desire to devote all his energies to the completion of the Flora of North America. A rumor is afloat that Prof. John M. Coulter, well known as one of the ablest of the younger American botanists, is to fill the vacancy thus created.

Some observations have been made by Strasburger recently on the reciprocal influence of stock and graft, and on the limits within which plants that are specifically distinct will permit of grafting or budding. He succeeded in grafting Datara Stramonium on Solanum tuberosum. The resulting plant produced good sized tubers which contained a small quantity of atropine. But what is still more remarkable he successfully grafted Schizanthus Grahami on Solanum, these plants belonging to distinct natural orders, the former to the Scrophulariaceæ and the latter to the Solanaceæ. It is the first instance on record where a union of this kind has been accomplished between plants so remote in their relationships.

We noticed some time ago in these columns a mounting medium of high refractive index discovered by Prof. Hamilton Smith. Since that time the same gentleman has discovered another for which he claims superiority. The former, or stannous chloride solution, had a refractive index of only 1.7 while this has a refractive index of 2.4. It is prepared as follows:

"Dissolve 1⅓ ounces of antimony bromide in two fluid drams of a 50% solution of boro-glyceride." The solution is facilitated by heat. When cold, it makes a medium of

much the same consistency as rather stiff balsam and it may be used in the same way. It has a dark sherry wine color, but when in thin layers on the slide, its color is scarcely more perceptible, unless it has been injured by over-heating, than that of many specimens of old balsam.

As the solution is somewhat deliquescent it is necessary to protect the mount with a ring of some suitable cement. Prof. Smith prefers a finishing ring of paraffin, made by melting a bit of it on the slide, and, by tilting the latter, causing it to flow around the edges of the cover glass. The superfluous paraffin is then rubbed off.

The medium has had a three months' trial and there is yet no reason to believe that mounts made with it will not keep indefinitely.

Our progressive instrument maker, Mr. Bulloch, has been improving his new microtome by adding a feeding attachment and an automatic ribbon and section carrier. He now regards it as a complete instrument. But we don't think so; not because the microtome is not the most perfect one we have ever seen, but because Mr. Bulloch never rests on his laurels, and we are morally certain that two months will not elapse before he has devised another improvement for it.

It appears from the investigations of Godlewski and Janse that the ascent of sap in the plant requires the co-operation of the living elements of the wood. The following experiment performed by Janse seems to prove the point:

The central portions of long branches of various plants were immersed for an hour in water raised to the temperature of 70° C., so as to destroy the vitality of the protoplasm, and although in every instance only a few inches of the branch were thus subjected to abnormal conditions, in each case the leaves above the heated portion withered after a few days, and the branch died.

Burgenstein has tried the effect of camphor water on plants and found that seeds swell and germinate more rapidly when watered with it than when watered with distilled water, and he finds also that partially withered shoots are more speedily revived by it than by pure water; but if the influence of the camphor be continued for a considerable time, from two to five days or more, the effect is injurious. In other words its effects are similar to those of stimulants on animal organisms.

The smallest flowering plant in existence is Wolffia microscopica, a native of India. It belongs to the natural order Lemnaceæ, or the Duckweed Family. It is almost microscopic in size, destitute of proper stem, leaves and roots, but having these organs merged in one, forming a frond. There is however, a prolongation of the lower surface into a kind of rhizoid, the purpose of which seems to be to enable the plant to float upright in the water. The fronds multiply asexually by sending out other fronds from a basilar slit, or concavity, and with such rapidity does this take place that a few days often suffices to produce from a few individuals enough similar ones to cover many square rods of pond surface with the minute green granules.

But small as these plants are, and simple in their structure, they yet produce flowers. Two flowers are produced on a plant, each of them very simple, one consisting of a single stamen, and the other of a single pistil, both of which burst through the upper surface of the frond. There are two species of this genus growing in the Eastern United States, one of them, Wolffia Columbiana, about 1-25 of an inch in diameter and the other, W. Brasiliensis, omewhat smaller in size.

NOTES AND NEWS.

Mr. E. D. Bryant, a highly-respected pharmacist of Circleville, Ohio, died of heart disease on Jan. 16.

A sanitary convention is announced to be held at Howell, Mich., under the auspices of the State Board of Health, March 3 and 4 next.

Governor Foraker has appointed John Weyer, of Cincinnati, on the Ohio Board of Pharmacy, to succeed Prof. E. S. Wayne, deceased.

The druggists of Norfolk, Portsmouth, and neighboring towns have an agreement for maintaining prices on "patents" which is working successfully.

At the examination by the Ohio Board of Pharmacy on January 11, there were 91 applicants, 59 to register as pharmacists and 32 as assistant pharmacists.

The Louisville School of Pharmacy for women begins its spring term Feb. 23. The faculty will remain as before except that Dr. D. T. Smith succeeds Mrs. Miller, who has removed to another State.

The death of Charles Faust, a pharmacist of prominence in Cincinnati and a gentleman having the esteem of all acquainted with him, evoked resolutions of sincere sorrow by the Cincinnati College of Pharmacy, of which institution he was treasurer.

Secretary Wilcox, of the Connecticut Pharmaceutical Association, informs us that the recent meeting of the association at New Haven, was one of the best in its history. A balance of over $1,100 in the treasury is quite an anomaly and is in itself an indication of general prosperity.

Edward H. Currier, M. D., Manchester, C. B. Spofford, Claremont, and A. S. Dolloff, Lake Village, have been appointed a special committee on unofficinal formulas for New Hampshire, under the co-operative resolution of the American Pharmaceutical Association, relative to the compilation of a National Formulary.

BROWNING & SLOAN, INDIANAPOLIS, IN TROUBLE.

It is with much regret that we record that Messrs. Browning & Sloan, Indianapolis, have encountered an unkind fate. On Jan. 27 Mr. Sloan, one of the most highly respected and honored members of the A. P. A., and a gentleman whose genial qualities and sterling character have gained him hosts of warm friends in all sections of the country, was driven by a stress of circumstances, due to the liability of his partner as surety on the bond of a defaulting public officer, to ask the appointment of receiver to settle the equities between the partners, pay the debts and collect and divide the proceeds. Mr. Sloan took this action simply to protect his individual interest from being swallowed up in the calamity which overtook his partner, and with none but the friendliest feelings toward the latter, whose misfortunes he ascribes to an error in judgment due to too tender a heart. The stock of the firm invoiced about the first of January $50,000; notes and accounts receivable $40,000; total liabilities, $50,000. The confidence in and sympathy felt for the house are strikingly illustrated by the following extract from the very unusual form of announcement issued by receiver John Elder:

"Messrs. Browning & Sloan remain in charge of the business, and will give it their undivided attention. Being relieved of the financial part, they can devote all their time and attention to their customers and their old friends, and all new ones that will favor them with a call."

Societies and Colleges.

BULLETIN OF PHARMACEUTICAL ASSOCIATIONS.

For information upon any subject relating to the affairs of any association, address the Secretary. For information regarding commercial exhibits, address the Local Secretary at the postoffice designated as the place of meeting. Blanks in the table will be filled out on receipt of the required information, which we shall be pleased to receive from the Secretary or other officer, together with correction of any errors. Will the Secretaries of State Boards of Pharmacy kindly furnish us with a list of officers and members of their respective Boards at their earliest convenience?

PH. ASSOCIATION.	PRESIDENT.	SECRETARY.	TREASURER.	PLACE AND TIME OF MEETING.	LOCAL SECRETARY.
Am. Phar. Asso.	Jos. T. Roberts, Baltimore, Md	J. M. Maisch, Philadelphia	C. A. Tufts, Dover, N. H.	Providence, R. I., Sept. 7	W. B. Blanding
N. R. D. A.	E. A. Sayre, Brooklyn, N.Y.	J. W. Colcord, Lynn, Mass.	F. H. Massi, Norfolk, Va.	Providence, R.I., Sept. 6	.....
N. W. D. A.	M. N. Kline, Philadelphia.	A. M. Merriam, Minneapolis, Minn.	S. M. Strong, Cleveland, O.	"Minneapolis-St. Paul," Sept. 21	.....
STATE ASSOCIATION.					
Alabama	.....	P. C. Candidus, Mobile	.....	Birmingham, May 11	G. M. Bains
Arkansas	.....	J. B. Bond, Little Rock	.....	Little Rock, April	.....
California	.....	Chas. Troppman, San. F.	.....	.....	.....
Connecticut	F. M. Wilson, Willimantic.	F. Wilcox, Waterbury	G. P. Chandler, Hartford	Mericen, 1887.	.....
Delaware	.....	.....	.....	.....	
Florida	.....	.....	.....	.....	
Georgia	H. G. Hutchinson.	W. S. Parks, Atlanta	.....	Savannah, April 13	
Illinois	T. H. Patterson, Chicago.	T. N. Jamieson, Chicago	B. F. Gardner, Atlanta	Rockford	J. R. Porter
Indiana	August Detzer, Ft. Wayne.	Jos. R. Perry, Indianapolis	Emil Martin, Indianapolis	Lafayette (date	David Hilt
Iowa	A. H. Miles, Des Moines.	R. M. Upson, Marshalltown	C. H. Ward, Des Moines	Waterloo, May, 1887.	C. D. Wangler
Kansas	H. W. Spangler, Perry.	John T. Moore, Lawrence	C. D. Barnes, Abilene	Emporia June 9	D. W. Morris.
Kentucky	H W. Evans, Danville.	J. T. Cook, Harrodsburg	J. J. Brooks, Richmond	Bowling Green, May 5	W. Turner
Louisiana	.....	Mrs. E. Rudolph, N. O.	.....	New Orleans, April 21	.....
Maine	.....	.....	.....	.....	.....
Maryland	.....	M. L. Byers, Hagerstown	.....	Annapolis, June 1—	.....
Massachusetts	Frank M. Pease, Lee	J. W. Colcord, Lynn	F H. Butler, Lowell	Boston, June 2—	Henry Canning
Michigan	H. J. Brown, Ann Arbor.	Stanley E Parkill, Owossa	Wm. Dupont, Detroit	Grand Rapids, Oct. 12	Wm. L. White
Minnesota	S. W. Melendy, Minne'lis	W. S. Getty, St. Paul	J. C. Hening, Stillwater	Minneapolis, June 9	.....
Mississippi	J. P. Finlay, Greenville	H. F. West, Fayette	W. R. Brenning, Natchez	Jackson, May 18	.....
Missouri	A. T. Fleischman, Sedalia	G. H. C. Klie, St. Louis	J. M. Good, St. Louis	Sweet Springs, June 15	.....
Nebraska	H. D. Boyden, Grand Island	F. P. Zimmer, Grand Is and	C. F. Goodman, Omaha	Omaha, May 11	C. J. Daubach
New Hampshire	M.S.Woodman, W.Lebanon	G. F. Vanderbilt, Concord	.....	—— Oct.	.....
New Jersey	W. M. Townley, Newark	R. H. Van Sant, Trenton	Wm Rust, New Brunswick	Newark. May 19	.....
New York	T. J. Macmahan, New York	C. W. Holmes, Elmira	C. H. Butler, Oswego	Rochester, June 8	C. H. Harkin
North Carolina	.....	J. C. Munds, Statesville	C. F. Nurman, Manchester	Fayetteville, Aug. 11	B. E. Seaberry
Ohio	W. M. Melville, Sandusky	L. C. Hopp, Cleveland	Chas. Huston, Columbus	Springfield June 8	Chas. Ludlow
Pennsylvania	C. T. George, Harrisburg	J. A. Miller, Harrisburg	J. L Lemberger, Lebanon	Lebanon, June 8	J. H. Redsecher
Rhode Island	Wm. K. Reynolds	H. I. Leith	John E. Potter	Providence, January	.....
South Carolina	.....	P. Wineman, Charleston	.....	.....	.....
Tennessee	.....	.....	.....	.....	.....
Texas	G. Kalteyer, San Antonio	Dr. G. Rice, San Antonio	E. W. Lancaster, Marshall	Dallas	G. A. Eisenlohe
Vermont	.....	.....	.....	.....	.....
Virginia	J. W. Thomas, Norfolk	E. R. Beckwith, Petersburg	F. H. Masi, Norfolk	Alexandria, May 11	E. Warfield
West Virginia	.....	C. Mœnkemoller, Wheeling	.....	Wheeling, June 8	.....
Wisconsin	F. F. Prentice, Janesvil'e	E.B.Heimstreet, Janesville	W P. Clarke, Milton	Tuesday, Aug. 10	F. M. Givens

CONNECTICUT PHARMACEUTICAL ASSOCIATION.

The tenth annual meeting of the Connecticut Pharmaceutical Association was held in the Athæneum, New Haven, Feb. 2 and 3. The treasurer's report showed a balance of $1123.74. The present membership, according to the report of the Executive Committee, is 258, exclusive of two honorary members. Seven new members were elected, and seven dropped from the roll for non-payment of dues.

The reports of various committees were read and accepted. President Williams read his address on Wednesday morning. The Committee on Pharmacy and Queries presented an able report. Mr. W. A. Spalding read a paper on "Loss of Weight of Sulphate Quinine;" also one on "Pepsin" and on "Simple Syrup." Mr. Whittlesey read a valuable paper on "Chemical Nomenclature," and gave illustrations.

Officers were elected for the ensuing year as follows: President—Frank M. Wilson, Willimantic; First Vice-President—Chas. E. Bristol, Ansonia; Second Vice-President—Edwin F. Tomlinson, Plainville; Secretary—Frederic Wilcox, Waterbury; Treasurer—Geo. P. Chandler, Hartford.

On motion it was voted to offer $50 in prizes for papers and exhibits of home manufacture. The president appointed the various committees, including one to co-operate with the committee on non-officinal formulæ.

At 3 o'clock P. M. the association adjourned to the annual dinner, at which about 65 were present. The next meeting will be held at Meriden. Very excellent exhibits were made by Lehn & Fink, Tarrant & Co., Parke, Davis & Co. and others.

AMERICAN CHEMICAL SOCIETY.

The American Chemical Society has elected the following gentlemen as officers for the ensuing year: President—A. B. Prescott; Vice-Presidents—T. Sterry Hunt, A. R. Leeds, A. A. Breneman, H. Endeman, H. B. Nason, T. G. Wormley. Other officers are: Corresponding Secretary—P. Cassamajor; Recording Secretary—C. E. Munsell; Treasurer—T. O'C. Sloane; Librarian—Wm. Rupp; Curators—A. C. Hale, F. V. Pool, W. Liebschultz; Committee on Papers and Publications—J. H. Stebbins, Jr., A. A. Breneman, A. R. Leeds; Board of Directors—A. R. Leeds, A. A. Breneman, H. Endeman (three local vice-presidents). P. Cassamajor, C. E. Munsell, T. O'C. Sloane, Wm. Rupp, A. A. Breneman, J. H. Stebbins, Jr., E. Waller, M. E. Waldstein, C. F. Chandler.

S. F. BRANCH OF THE N. R. D. A.

At the quarterly meeting held Jan. 4, the Executive Committee of the above society presented a report of unusual interest. We extract the following:

"The subject of Mutual Insurance among the retail druggists has been duly considered and the conclusion arrived at, that the same is quite beyond our consummation

The amount of capital required to give confidence and security to such an enterprise would be too great for the limited number of our profession in this city to engage in, even though a majority of them should subscribe to the plan, which is by no means certain. It was thought, that by druggists agreeing to give the whole of their patronage to some single, reliable insurance company, a rebate might be obtained, which practically would nearly accomplish the same purpose, but upon inquiry it was ascertained that owing to the powerful combination existing among the insurance companies without exception, in the State, nothing of the sort could be effected, nor even could the commission or any part thus be saved, agents and solicitors being alike protected. Your committee have been informed that it requires not less than 10,000 average policies to maintain successfully the existence of a fire insurance company, and it would appear quite plain that the only possible system that could be adopted would be that of a national organization, embracing a membership of not less than 10,000, or about one-third the number of retail druggists in the United States.

"In addition, your committee would respectfully submit that in accordance with our Constitution, which proclaims the sole object of our association to be the establishment, maintenance of uniform schedule prices, and the regulation of the sale of Proprietary and Toilet Articles, our labors should be confined to that purpose alone, as the best means to preserve our unity and permanence.

"The attention of your committee having been directed to the City and County of San Francisco's License Orders, it was discovered that druggists were not permitted to sell wines and liquors in quantities of less than a quart, even under the authority of a physician's prescription. Recognizing the injustice of compelling customers, particularly women and children, to go to a liquor saloon to purchase the small amounts which they may need for purely medicinal purposes, and realizing that the profession did not desire to be placed in the position of constantly violating the laws, it was concluded to petition the authorities to amend the present order so as to enable druggists to sell wines and liquors in small quantities without a special license, provided none shall be sold as a beverage, to be consumed as such, on the premises of the vendor. After the filing of the petition and upon notice, Messrs. Searby, Bacon, Keil and Bayly appeared before the License Committee, and after the presentation of their views, the committee agreed to report to the board in favor thereof, and which will probably be favorably acted upon at their next meeting." [Action was so taken.—Ed. W. D.]

"Complaints of schedule violations to the number of four were received and duly investigated. All but one were found to be groundless, the latter being committed under an undoubted misapprehension, as the erring firm has not been ever known as a cutter, and has always adhered to full prices, but the fact proves to the committee, and it desires to call members' attention to the absolute necessity of frequent consultation of their schedule, which should always be handy for reference, and not to rely exclusively upon their memory, and would recommend that each member who has not already done so, go over his stock with schedule in hand and mark in plain figures thereon, the selling prices thereof, in accordance therewith. It is only thus, with constant care and attention, that a strict compliance with our established prices can be fully maintained; these unfortunate oversights causing much labor to the committee, and seriously endangering the mutual confidence at present existing."

Signed by G. E. Bacon, President: J. A. Boyken, Jas. J. McDonnell, Chas. A. Bayly, M. Tschirner, H. B. Shaw, R. E. White, P. C. Rossi, F. C. Keil, Wm. M. Searby.

The Iowa Commission of Pharmacy were in session from Jan. 7 to 16, in their new quarters at the State capitol. During the past five months eighty-four applicants for registration have been examined. Forty-five failed and thirty-nine have been successful, as follows:

M. L. Allen, Astor; Alfred T. Benge, Bloomfield; Chas. A. Bradbury, Whitten; J. B. Bleakmore, Keosauqua; Chas. Ballheim, Cedar Rapids; Harry Coe, Des Moines; Theo. DeTar, Boone; L. E. England, Grand Junction; Ed. M. Freerks, Parkersburg; R. G. Hamilton, Ocheyedan; J. H. Hull, Ainsworth; F. M. Hill, Persia; Carroll B. Kinsey, Marshalltown; Albert Longneckard, Independence; Harry S. Miller, Oskaloosa; Theo. Madison, Brooks; Sherman R. Macy, Bloomfield; J. H. Moore, Monroe; John F. McNamara, Des Moines; W. E. Myers, New Hampton; E. C. Miller, Rockwell; H. E. Newhouse, Sheffield; M. C. Osborn, Delmar; T. L. Putnam, Riverton; Chas. C. Pike, Oskaloosa; Geo. M. Platt, Red Oak; Mahlon Roberts, Pleasant Plaine; W. H. Rogan, Bayard; C. J. Saunders, Clare; S. V. Sampson, Ottumwa; C. W. Sargent, Ottumwa; Harry E. Swafford, Des Moines; L. M. Thomas, Kalo; E. W. Walker, Schaller; Louis J. Weyer, Ottumwa; C. L. Wright, Pleasantville; Leo C. Wachtel, New Hampton; J. H. Whitman, Hampton; Mrs. Mary L. Waterbury, Fayette.

The following named have been registered as graduates of colleges of pharmacy during the same period:

Clarence Bowman, Council Bluffs; S. H. McCammon, Des Moines; Oscar Ruff, Dubuque; Henry Charles Reche, Sioux City.

One certificate of registration was revoked at their late meeting, that of A. T. Doll, of North English.

Although the Secretary is not expected to be in his office except on examination days on the first and third Tuesdays of each month, the steady run of correspondence requiring daily attention, and during the session of the General Assembly, will likely find him at his office every day. The board is making an especial effort to collect the $100 license fee from itinerant physicians and all prosecutions but one have compelled the traveling doctor not only to pay his license fee but the court costs. Several paid the penalty, $25 and costs, and quit the practice. The one who escaped by a change of venue and accidental justice decision, will yet come to grief if he turns up again, as violating section ten of the pharmacy law. All registered pharmacists or resident physicians who will notify the Secretary, C. A. Weaver, Des Moines (or either of the other commissioners by wire or mail), will have the law promptly applied. Any one can file the information and then wire commissioner to attend on day set for trial. This same rule will apply in all other violations of the pharmacy law, but there is no need for a commissioner's presence unless there be special reason for such attendance; the usual course of local prosecutions must follow.

EXAMINATION WEEK AT THE CHICAGO COLLEGE OF PHARMACY.

During the present year a system of examinations called "progressive examinations" has been in force at the above college. The plan briefly stated is as follows: Each of the three departments of the college has two courses, a junior and a senior, and each course is subdivided into sections. In chemistry there are three sections in the junior, and three in the senior year; in pharmacy, four in the junior, and three in the senior; and in materia medica four in each. The first section of the junior year, however, in this department is devoted to botany. At the close of each section a written examination is held, and also one at the close of the term in each course, which covers all

the sections in that course. Besides these there is at the close of the term an examination termed "the oral," which, however, owing to the size of the classes, consists mainly in the identification of drugs, chemicals and pharmaceutical preparations. The results of these three series of examinations—the sectional, the final written, and the oral—are each marked on the scale of 100 and averaged together, and the percentage thus obtained constitutes the scholarship standing of the student. The required average to be attained in each department is 65 per cent. It was the original intention of the framers of the system that the results of the examinations in each section should stand by themselves, and that failure in one section should not mean failure in the entire course, and thus compel the student to be re-examined on the whole. But this plan, we understand, has been abandoned by the trustees on the ground that it tends to lower the grade of scholarship. The standing of students in the laboratories is marked on the same scale, but the same necessity for holding periodical written examinations does not exist here, as the students are required to keep a daily record of their work and the results of it are reviewed by the professors in charge.

The examinations began on Wednesday, Jan. 27, and closed on Friday, the 29th, a day being devoted to each department. The results show very creditable work, and although the course is too crowded there is too much work both for pupils and teachers compressed into the short space of fifteen weeks. There can be no doubt the college has made substantial progress in the direction of the attainment of a higher standard of scholarship. The record of the senior class is a rather remarkable one. Out of the sixty-seven who were graduated no less than twenty attained a standard of 90 per cent. or above in the entire work of the course, and there were few who attained an average of less than 80. Mr. W. C. Kirchgasser, who captured both the Faculty and the Alumni prizes, has perhaps the most remarkable scholarship record of any student the college has ever graduated. He stood 100 in materia medica, 100 in pharmacy, but little below that in chemistry, and he was 100 in all the laboratories. Messrs. Ackerman, Peyton and Kendall, however, followed him very closely. In the junior class first place was easily captured by Mr Geo. Karg.

The following are the examination questions of the senior class:

CHEMISTRY.

Section I.—(1) What elements are chiefly concerned in the formation of organic compounds? (2) What is the composition of starch? (3) By what means is glucose obtained from starch? (4) What is the name of this compound, $C_6H_8(NO_2)_2O_5$? (5) In the production of $HC_2H_3O_2$ from C_2H_4O, what intermediate compound is formed? (6) In the formation of soap what other compound is produced? (7) Mention three vegetable alkaloids. (8) What is a glucoside? (9) What constituents of plants are nutritive? (10) Mention a test for albumen in solution.

Section II.—(1) To what extent is As_2O_3 soluble in cold water? (2) Mention the best antidote to arsenic. (3) What is the color of Sb_2S_3? (4) What is the composition of flint? (5) What are the differences in composition between iron, cast iron and steel? (6) Complete this equation, $Fe_2Cl_6+3Na_2CO_3+3H_2O=$ (7) What is the composition of litharge? (8) Which is the more poisonous, the acetate or carbonate of lead? (9) What is the sp. gr. of pure Au? (10) Indicate by symbols a process for the production of calomel.

Section III.—(1) Indicate by symbols the composition of white vitriol. (2) Indicate the composition of Epsom salt. (3) What compound of Mg is most insoluble in water? (4) Mention two common substances consisting chiefly of $CaCO_3$. (5) What is the composition of plaster Paris before and after setting? (6) Mention two compounds of Ba insoluble in water. (7) What amount of Cu is there in a troy ounce of American silver coin? (8) When NH_4NO_3 is heated, what compounds are produced? (9) Write the complete formula of sal soda. (10) Complete this equation, $KHCO_3+HNO_3=$

MATERIA MEDICA.

Section I.—(1) State the most distinctive structural characteristics of senega, and give the botanical name of the species from which the drug is derived. (2) Give the botanical name and describe the structural peculiarities of the officinal pellitory. (3) What substance replaces starch in burdock, dandelion and many other compositæ? (4) Describe the internal structure of poke root as observed in cross-section. (5) What two constituents of calumba give it medicinal value?

Section II.—(6) How would you distinguish logwood from red saunders? (7) Give such a description of prinos as will serve for its identification. (8) Describe the most important peculiarities of juglans. (9) Give the botanical name, natural order, and name the active principle of juglans. (10) What is the active constituent of quillaia bark?

Section III.—(11) From what plant (botanical name) is guarana derived, and what is the active principle? (12) From what drugs respectively are the following alkaloids derived: Codeine, pelletierine, hydrastine and hygrine? (13) What is caballine aloes? What is the important constituent of socotrine aloes? (14) Give such a description of catechu as will serve for its identification. (15) Of what two sugars is honey chiefly composed?

Section IV.—(16) By what chemical test would you distinguish galbanum from allied gum resins? (17) How would you distinguish bdellium from myrrh? (18) From what plant is elaterium obtained, what is its important constituent, and what are its medicinal properties? (19) How is lac resin produced? Explain the difference between stick lac and shellac. (20) State three different means by which a volatile oil may be distinguished from a fixed oil.

PHARMACY.

Section V.—(1) Describe how chlorine water is made stating all needful practical precautions. (2) Describe the process of making solution of chlorinated soda, and state whether hot or cold liquids are used, and why. (3) What is Monsel's solution? How is it made? and how is Monsel's powder made? (4) Name two different processes for making mercuric oxide, and state the chemical reactions occurring, the precautions necessary to insure good results, and briefly describe the products. (5) How is solution of acetate of iron made? Describe the several steps, state common causes of failure to obtain a preparation fully the official specific weight, and how a too weak solution may be made stronger. (6) Describe how phosphoric acid is made, what impurities are liable to be contained in it, and how these are gotten rid of. (7) How would you prepare a solution of salicylate of sodium, using salicylic acid as one of the materials? What important precaution is necessary?

Section VI.—(1) Name the several kinds of sugar used in pharmacy, and the most obvious differences between them. (2) Name six neutral principles (glucosides or not) which are of common occurrence or commonly used in pharmacy, and state what drugs contain them. (3) Describe the differences between fixed and volatile oils as to composition, solubilities and occurrence in plants. (4.) Name four gum-resins, two natural oleo-resins and two simple resins, and state the probable origin of resins. (5) Enumerate the four most important classes of proximate principles of drugs in the order of their relative importance, and give examples of drugs containing each kind. (6) Describe the process by which glycyrrhizin is made, and state upon what principles the extraction and purification of the product are based. (7) Describe the process of assay for opium, and state upon what principles it is based.

Section VII.—Enumerate (a) all of the principal constituents (whether medicinally active or simply of pharmaceutical interest); (b) the one or several official menstrua; (c) all the official preparations; and (d) any noteworthy peculiarities in the practical pharmacy of the following named drugs:

1. Opium.
2. Ipecacuanha.
3. Lactucarium.
4. Sarsaparilla.
5. Gentian.
6. Cubeb.
7. Valerian.

COMMENCEMENT EXERCISES OF THE CHICAGO COLLEGE OF PHARMACY.

The ninteenth annual commencement exercises of the Chicago College of Pharmacy were held at the Grand opera house the 4th inst. The attendance was large, and, with the exception of the gallery, filled the house. The stage was occupied by members of the faculty, while the graduating class—sixty-eight in number—occupied the center orchestra chairs. The programme opened with prayer by Rev. William Fawcett. An overture was played by the orchestra.

The introductory addresses were delivered by Dr. T. H. Patterson, president of the college. In the years that were passed, little if any careful instruction had been required to allow one to dispense drugs, but the enlightened sentiment of the age demanded that the uneducated should not be given a position behind the dispensing counter. The Chicago College of Pharmacy had been started within the past twenty years, and it had not only been successfully maintained, but its influence had been felt over the broad land. Its graduates had been thoroughly trained, and had added to the dignity and importance of the profession.

Prof. H. D. Garrison delivered an address on behalf of the faculty. He presumed the graduating class would follow its profession and keep posted in pharmaceutical development. While no one could expect to become proficient in all things, every one could become eminent in some department of science if it was followed with close study. He urged them to become connected with scientific societies. Science had been condemned by those who grew fat on ignorance. It was hostile to every form of superstition, and so every form of superstition was hostile to science. Every faith-cure wizard would have one think nature was fickle and controlled affairs by supermundane powers. Every man was honest in his belief, and there should be tolerance for another's opinions. One little acquainted with any branch of science imagined it of little importance, and rather as an expensive experimental study. All the facts, pro and con, should be heard before coming to a decision. He would not urge teetotalism unless it was a question of drunkenness or strict temperance. He did not drink when well, because he did not like to be sick, and had little enough sense when sober. If man or woman wanted to drink too much tea or eat too much pork or sausage or cabbage he would not have them muzzled by law. Those, however, who lived as was best for their health would obtain their reward. He would always advise temperance in all things if men wished to be successful and happy.

Mr. Elmer E. Day delivered the valedictory for the graduating class, and took occasion to pay high tribute to the college and its faculty.

The graduating class was then called upon the stage and the degree of graduate in pharmacy conferred upon the following:

Emil Ackerman, Streator, Ill.	L. W. Kendall, Quincy, Ill.
A. J. Agnew, Wilton Iowa.	W.C. Kirchgasser, Englewood, Ill.
J. H. Atkinson, Sac City, Iowa.	John H. Kleinmann, Chicago, Ill.
S. P. Bard, Libertyville, Iowa.	L. W. McConnel, Chicago Ill.
Victor Bardouski, Chicago, Ill.	C. B. Martin Columbus, Ohio.
O.C.Bechmann, Fountain City Wis.	A. J. Mehl Leavenworth, Kan.
Geo. H. Benard, La Salle. Ill.	John A. Mell, Chicago, Ill.
A. J. Behrendt, Chicago, Ill.	A. Miller, " "
Jennie E. Bell, " "	O. J. Witcham, " "
J. H. Bressted, Downers Grove, Ill.	J. W. Morse, " "
F. P. Boyden Chicago, Ill.	Howard Mountain, W. Liberty Ia.
Herman Breves Lake View, Ill.	L. E. Peyton, Hooper, Neb.
Harry Brisley, Oak Park, Ill.	A. S. Putnam, Ypsilanti, Mich.
Samuel Case, Chicago, Ill.	A. M. Reiss, Chicago Ill.
John Chivatal " "	Wm. Renz, Ottawa, Ill.
Michael Clemins, Charles City, Ia.	Frank Samson, Osage, Iowa.
Elmer E. Day, Blue Island, Ill.	C. Spuehr, Sauk City, Iowa.
Alvin E. Dietz, Mayville, Wis.	F. J. Steker, Chicago, Ill.
O. A. Dreies, Chicago, Ill.	H. K. Stewart, Buffalo, N. Y.
W. A Dyche, " "	Geo. L. Vincent Chicago Ill.
John P. Eckers, Ottumwa, Iowa.	C. H. Wagner, Mt. Pulaski, Ill.
Paul J. Faber, St. Paul, Minn.	Vernon I. Waldron, Chicago, Ill.
Frank Gardner, Sublette, Ill.	Arthur Wallace, Independence, Ia.
Frank Gazzolos, Chicago Ill.	J. D. Webb, Warsaw Ind.
O. A. Gieseles, Milwaukee, Wis.	Ewald Weber, Chicago, Ill.
E. F. Glaser, Norwalk, Ohio.	John Weiss, Dubuque, Iowa.
Chas. Goetz, Princeton, Ill.	E. J. Weisor. Preston, Minn.
Edwin Hall Elgin, Ill.	Julius Wendel, Ottawa. Ill.
Geo. B. Heine, Chicago, Ill.	W. W. Wickel, Naperville Ill.
S. W. Hurst, Sedalia, Mo.	L. Wilson, Logansport, Ind.
Geo. T. Hendric, Chicago, Ill.	J. C. Wirthman, Kansas City, Mo.
C. Hirsch " "	Geo. F. Woodruff, Joliet, Ill.
Chas. B. Hoskins, Dodgeville, Wis.	Nicholas Zender, Chicago, Ill.
C. J. Kasbaum, Laporte, Ind.	Julius Zindt, Paris, France.

After accepting their diplomas and a profusion of floral gifts from admiring friends, the graduates returned to their seats in the orchestra, and the orchestra played one of Strauss' glee songs.

Prof. Oscar Oldberg then called W. C. Kirchgasser before the audience, and after stating that he had obtained the highest average in all the studies of any of the class, presented him with the faculty medal. Mr. Kirchgasser appeared very modest and embarrassed, and expressed his thanks in a very few words. His embarrassment was not lessened when he was again called up by Dr. J. A. Lydston and presented with the badge of the Alumni association. President Patterson, before concluding the exercises, read the names of those of the graduates who had stood highest in the class. He also announced that the medal in the junior class had been won by George Carr.

At the Alumni association in the evening the following toasts were given and responded to: "Chicago College of Pharmacy," T. H. Patterson; "Class of '86," Elmer E. Day; "The Alumni Association," J. A. Lydston; "?," N. Gray Bartlett; "Pharmaceutiria," (feminine), D. H. Galloway; "The Ideal College of Pharmacy," E. S Bastin; "Pharmaceutical Education," Prof. Oscar Oldberg; "Carbon," Prof. Plym S. Hayes; "The Retail Stamp Graduates," Hugo W. C. Martin, and "Evolution in Pharmacy," Prof. H. D. Garrison.

KING'S COUNTY (N. Y.) PHARMACEUTICAL SOCIETY.

At the meeting of the above society, held at Brooklyn Feb. 9, the following officers were elected: President—Chas. R. Paddock; First Vice-President—F. Stevens; Second Vice-President—Thos. D. McElhenie; Secretary and Treasurer—Flavel N. Bliss; Assistant Secretary—T. Chagnon; Board of Censors—L. D. Sheets, H. Douglas, L. T. Perkins; Board of Trustees—T. M. Lahey, W. M. Davis, L. E. Nicot, W. P De Forest, E. A. Sayre.

BOSTON DRUGGISTS' ASSOCIATION.

At the recent meeting of the above association the following officers were elected: President, J. A. Gilman; Vice-Presidents, S. A. D. Sheppard, A. C. Smith; Secretary, A. K. Tilden; Treasurer, T. L. Jenks; Executive Committee, I B. Patten, L. L. Jenkins, A. P. Gilson, H. S. Sears, F. A. Davidson, W. W. Bartlett; Committee on Membership, W. A. Chapin, C. E. Barker, F. A. Harris, F. Hollis, G. Warren. At the dinner a number of prominent citizens were present, among them Gov. Robinson, Gen. N. P. Banks, Dr. E. N. Whittier, J. D. Morton, R. D. Young (New York), M. N. Kline (Philadelphia), Theodore Metcalfe, Henry Canning and S. A. D. Sheppard.

NEW JERSEY STATE BOARD OF PHARMACY.

The regular quarterly meeting of the New Jersey State Board of Pharmacy was held in the Board of Trade rooms, Trenton, on Thursday, Jan. 21, 1886. The resignation of Mr. G. A. Mangold as a member of the Board was received and accepted. The following gentlemen, being graduates in pharmacy, were granted certificates of registration: F. P. Sher, Camden; Elmer Kirk, Grant; Clayton H. Willard, Crawford; Wm. J. Hart. Out of nine candidates by examination. J. J. Flynn, Mt. Holly, and G. N. Thomas, Trenton, passed. The next meeting will be held in Masonic Hall, No. 481 Broad street, Newark, on Thursday, Feb. 18, 1886, at 10 A. M.

IOWA STATE PHARMACEUTICAL ASSOCIATION.

Seventh annual meeting held at Des Moines, Feb. 10 and 11.

First Session—Wednesday Morning.

The Iowa Pharmaceutical Association convened at Armory hall, President C. R. Wallace, of Independence, calling the meeting to order at 10:30. Prayer was offered by Dr. Friesbie. The association was welcomed in a most eloquent manner by Mr. F. Lehmann, on behalf of the citizens and pharmacists of the State capital, who was received with great applause. He was very glad to be able to give the very formal greeting of "ladies and gentlemen," as he knew they must have derived great benefit from the association of the gentler sex. He was glad, he said, that the association had felt compelled to return to Des Moines for the meetings. "You will remember that I was with you at your first meeting, presumably because I had served as an apprentice at your business, and now that I am here again with you, it must be because you have been serving an apprenticeship at the law. We have within us the germs of death and dissolution, and we may not turn aside entirely the course of nature, but we may divert and postpone the end. There is in all good a corresponding evil and the greatest care must be taken by you to allow only such persons to exercise your rights as will not bring into prominence the evil. You have not had the law which seemed to be the best for your purposes, but the public confidence in your integrity as a class will bring about a voluntary change." Mr. Lehmann closed by giving the association a warm welcome to the capital and expressed the hope that their session might be both profitable and pleasant. R. W. Crawford made a brief response on behalf of the association.

President Wallace then read his annual address, which reviewed at length the situation in Iowa and the events of the year.

Second Session—Wednesday Afternoon.

The meeting was called to order by President Wallace at 2:40 P. M. The minutes of the previous meeting were read, and after Mr. Schaefer had called attention to the irregular proceeding in the election of an honorary member, they were approved. The secretary read the names of several applicants for membership received at the morning session, when upon motion, the secretary was instructed to cast a ballot for their election. The chair appointed as a Committee on Exhibits, the following: A. A. Broadie, Waverly; J. T. Robinson, Martinsburg; G. A. Isbell, Maquoketa.

Dr. Rosa Upson, chairman of the Committee on Papers and Queries, submitted a report stating there was a dearth in pharmaceutical literature in the State of Iowa, which was to be attributed perhaps to the stagnation in business, and as a consequence very few responses to queries had been received. Since the last annual meeting the States of Massachusetts and Minnesota had swung into line with pharmacy laws. The meetings during the year just closed, notably those of the American Pharmaceutical, National Retail Drug and Wholesale Drug Associations, American Association for the Advancement of Science and other associations, were all largely attended and very enthusiastic. The International Pharmacopœia project was commented upon and its immediate success not regarded as certain, owing to the frequently uncertain standards introduced by it. The numerous additions would be considered by the medical profession with anything but favor, since the triumph of medical science had been mostly achieved by comparatively few remedies. The efforts of the manufacturing chemists were also unceasing in their behalf in sending samples of their products broadcast throughout the land. The tendency inevitably following this activity is an accumulation of dead stock and new discoveries of no earthly use. As a remedy, it was suggested that the manufacturer be requested to test the efficacy of his new discoveries upon himself and clerks before introducing them generally. Nevertheless, the manufacturing chemists have done much in bringing forward many valuable remedies, for which they deserve the gratitude of all physicians and pharmacists. The conclusion of the report is as follows: "Hopefully looking forward into the near future for some relief in our present troubles, and some friendly hand to lift from over our heads the impending dark clouds which have hung over us for the past few years, your committee submits this report and a few queries for your consideration. Thanking you for your trust imposed in me as the one lady member of your association, I retire from committee work for this year."

The following papers in answer to the queries were then read by Dr. Upson:

1. "Does glucose present any advantages over cane sugar in pharmaceutical preparations?"—Answered by Dr. J. Roberts, Osceola.
2. "The training necessary to become a qualified pharmacist."—By Commissioner R. W. Crawford, Fort Dodge.
3. "Shall mixtures of poisonous substances in dispensing prescriptions be labeled poison without direction from the prescriber?"—By F. E. Stoughton, Adel.

Messrs. Thornton and McBride, who were appointed at the previous session a committee to call upon the Senate Committee on Medicine, Surgery and Pharmacy, to extend an invitation to be present at the meetings, reported that they had discharged their duty. The discussion of the proposed amendments to the pharmacy act was made a special order for the evening session when the Senate committee were expected to be present. A number of queries were left unanswered, and as quite a number remained also unaccepted since the last meeting, the committee did not feel the necessity of presenting any more subjects, but urged the attention of members to those left standing from last year. The following is a list of questions:

1. What are some of the most useful analytical tests easily made by any dispensing pharmacist, but too often neglected?
2. What is the best preservative of mucilage of acacia?
3. What are the simplest tests for the various balsams that are reliable, or which can be quickly used in an emergency?

Unanswered Queries.

1. Commercial oil of cedar is often grossly adulterated. From what species of cedar is it obtained? What adulterants are used, and how can they be detected?
2. How do the various kinds of beef extracts compare with each other as to their nutritive qualities or value as medicinal agents?
3. Do principals in pharmacies exercise sufficient care in the selection of apprentices as to their intellectual qualifications? What should be the standard of education, age and general fitness for young men entering the profession? What are the duties? Accepted by J. P. Morey, Storm Lake.
4. Is there any efficiency in colorl ss tincture of iodine?
5. What is the best preparation of tolu?
6. What is quinquinia?
7. How reliable are graduates, weights and measures as received from the manufacturers!
8. Should prescriptions be compounded behind an inclosure or openly?
9. What effect has the fungoid growth on dilute phosphoric acid, and to what extent does it impair the strength of the acid?

Mr. Boerner, chairman of the Committee on Adulteration, read a paper from Mr. Reute, a member of the Committee, regretting the fact that no samples of drugs for investigation or examination were sent to the committee as requested. The conclusion was therefore arrived at that the drugs and medicinal preparations used in the State of Iowa must be without fault. He hoped that more interest will be exhibited in this matter in the future, and suggests that an appropriation be made by the association to cover the expense of transportation.

Mr. Boerner spoke in a similar strain, and said that a small appropriation would be desirable. The report was accepted and placed on file.

Dr. Treat, one of the delegates to the meeting of the

A. P. A. at Pittsburg, reported a very interesting meeting; that the proceedings were all that could be desired. The most important measure was the introduction of the National Formulary, which would be adopted when completed by the committee in charge.

A report was also received from Mr R. Hetlesaeter, of Sheldahl, as delegate to the N. R. D. A at the last annual meeting at Pittsburg.

Credentials were received from the Wholesale Druggists' Association through M. W. Ward, Des Moines, and Mr. Hornick, delegates; also from the Missouri State Pharmaceutical Association, O. A. Wall, delegate.

A communication was received from J. W. Colcord, Lynn, Mass., secretary of the N. R. D. A., urging the Iowa State Association to join the N. R. D. A. upon the plan outlined in the resolution passed at the Pittsburg meeting. It was referred to a committee for action, consisting of W. C. Bryant, Cedar Falls; A. H. Miles, Des Moines; F. E. Houghton, Adel.

Mr. Bryant, chairman of the Executive Committee, made a supplementary report regarding the delinquency of members in paying their annual dues.

Mr. Schaefer, of the Committee on Code and Ethics, reported progress, and Mr. Miles reported favorably on the communication received from the secretary of the N. R. D. A.

A telegram was received from the president of the Illinois Pharmaceutical Association, extending hearty sympathy and good-will to the druggists of Iowa.

W. W. Forry, Waterloo; W. C. Bryant, Cedar Falls; and C. Reinke tendered their credentials as delegates from the Blackhawk County Pharmaceutical Association, which were accepted.

A communication was read from C. B. Gould, Mechanicsville, who expressed regret at his inability to attend the meeting. A communication was read from Secretary J. W. Colcord, of the N. R. D. A., in regard to favoring the appropriation of $25,000 in Congress for the introduction and cultivation of medicinal plants in the United States. It was referred to Dr. Rosa Upson, chairman of the Committee on Pharmacy and Queries. Mr. O. A. Wall, of the National Druggist and C. S. Hallberg, of the WESTERN DRUGGIST, were welcomed by the association and tendered the privileges of the floor. The courtesy was duly acknowledged.

The association proceeded to take up the report of the Legislative Committee, which was presented by Chairman J. H. Harrison, of Davenport. After some discussion it was agreed that the revised draft be read and discussed in an informal way, so that at the special evening session, when the Senate Committee would be present, the members of the association might thoroughly understand the different sections and act upon them intelligently. Mr. Harrison then read the draft, each section or each radical change being explained by Mr. Schaefer, who also successfully demonstrated in what particular the sections of the present law were sought to be improved. The discussion soon became quite general, but the "liquor permit" section received by far the most attention. It was participated in chiefly by Messrs. Crawford, Bryant, Harrison and Schaefer who favored the section as drafted by the committee, these gentlemen being opposed by an equal if not even larger number, headed by the irrepressible Mr. Van Cise, and including Messrs. Morgan, Stoughton, Winchester and others who contended that the requirements regarding permits were too rigid and impracticable. As will be seen further on, the section provides for permits being granted by the county auditor to druggists buying liquors for strictly medicinal use, and directs that a permit must accompany *each order* for liquor, with the kind and quantity specified to entitle it to transportation by any public carriers in the State. These permits are to be issued only to registered pharmacists; the Commissioner of Pharmacy being directed to keep the county auditors posted as to those not so qualified. After considerable discussion upon this measure, pro and con, it was left for further consideration at a subsequent session.

Mr. Schaefer then submitted the following resolutions, which were adopted:

1. *Resolved*: That the General Assembly be requested to provide that the $2,000 of the appropriation asked for the State University be applied to the proper equipment of the laboratory of the department of pharmacy in the State University.

2. That the General Assembly be asked to furnish rooms in the capitol for the Commission of Pharmacy.

It was moved and seconded that Dr. McBride be appointed a committee of one to present the resolution to his member from Marshall county, and that Mr. J. C. Valentine present the same in the House. A committee was appointed on the Department of Pharmacy of the State University as follows: J. H Harrison, Davenport; W. C. Bryant, Cedar Falls; Dr. W. S. McBride, Marshalltown. Adjourned.

Wednesday Evening—Third Session.

Eleven names were presented for membership. The president extended a cordial welcome to the members of the Legislature who were present in considerable numbers in response to the invitation extended the committee appointed at the last session. Senator Caldwell replied to Mr. Schaefer who urged that the members come forward, the association in the meanwhile greeting them by rising en masse. The Senator, on behalf of the Senate Committee of Medicine, Surgery and Pharmacy, said he was personally very glad to meet so many of the druggists of the State. He felt that anything which tended to elevate the profession of pharmacy would also help the profession which he had the honor to represent, namely, the profession of medicine. The security, the assurance, that when the physician prescribes, his prescription would be carefully filled they had in a great measure to thank the enactment of the State pharmacy law. Their interests are identical. As far as lay in his power he also promised that what he could do conscientiously to free the profession from the stigma of selling liquors would be done freely. He favored the proposition that the sale of all intoxicating liquors be placed in the hands of registered pharmacists and all needful restrictions be imposed for the prevention of an illegitimate use of the privilege. Dr. Wilbur, who was called upon, could only reiterate the sentiments expressed by his predecessor, and thanked the Association for the very kindly welcome extended to them. Mr. Dabne, a member of the House Committee, said he had little to add but recommended that Dr Lyons, of Guthrie county, be heard, who replied in a happy vein. He was pleased to see the progress made by the druggists in the State during the last five years. He felt in his heart that druggists did not want to be classed as rumsellers. Dr. Le Force and Representative Nelson, upon being invited to speak, stated that they had nothing to add to what had been stated by the previous speakers. Dr. Butler, in response to the call, made some satirical remarks, which were well received. Mr. Smith, who represented the farming districts, said that he was not very familiar with medicine or pharmacy, yet he thought that this matter should receive serious attention. He wanted honesty and good, conscientious men who were competent to conduct their business. Mr. Meservey, once a pharmacist, now a representative in the House, said that

anything the pharmacists wanted would be done gladly if fair to those most interested—the public.

Mr. Harrison then read a draft of a proposed bill to be presented to the Legislature. Among other features the draft abolished all diploma distinctions in the pharmacy act before registration; and provides that the auditor in each county shall issue permits for the transportation of liquors for druggists for each shipment; also that druggists may keep for sale for medicinal purposes only, alcohol and liquors. The reading of the bill brought out much discussion, participated in by Messrs. Van Cise, Bryant, Houghton, McBride, Schafer, Winchester and many others. Its provisions were carefully scanned, but before being voted upon seriatim by the Association, a motion to adjourn until nine o'clock next morning was carried. During the evening, Fred Lehmann was present and as counsel for the commissioners of pharmacy in their legal work, addressed the association. He reviewed in full the legislation on the subject, the obstacles which had to be overcome, and the decisions and holding of the courts on the minor points in the laws. His address was very eloquent, and was listened to with rapt attention by the legislators. In answer to a question Mr. Lehmann stated that it had been decided that no one can be the proprietor of or be responsible for a pharmacy unless registered as a pharmacist.

Thursday Morning.—Fourth Session.

The Association was called to order at 9:30, President Wallace in the chair. The minutes of the previous meeting were adopted and seven applications for membership acted upon. Mr. Bryant, on behalf of the executive committee, reported favorably upon the election of W. A. Singer, of Peoria, Ill., to honorary membership. It was subsequently recommended that the Association in the future use proper discrimination in the election of honorary members. The Committee on Legislation then reported, through Chairman Harrison, the following draft previously referred to, which was read preparatory to action on the sections seriatim.

SECTION 1. Be it enacted, etc., that section three of chapter seventy-five of the act of the 18th General Assembly be and the same is hereby amended so as to read that the Secretary of State is authorized to furnish the Commissioner of Pharmacy with stationery and blanks for use in their office.

SEC. 2. Section eight, chapter seventy-five, be amended so as to read: Pharmacists whose certificates of registration are in full force and effect shall have the right to keep and sell intoxicating liquors under such regulations as have been, or may be provided by the Commission of Pharmacy. Provided, that nothing herein contained shall be so construed as to shield any person who in any wise abuses this trust for the legitimate and actual necessities of medicine only from the utmost rigor of any law now or hereafter in force relating to the sale of intoxicating liquors, and in addition thereto for repeated violation his name shall be stricken from the register by the commissioners upon receipt of transcript of final conviction which shall be transmitted by the court or by the order of the court before whom conviction is had. Twenty-five per cent. of all moneys received as fines under the provisions of this chapter shall be paid to the State treasurer, and be reported to the auditor and held subject to the order of the Commission of Pharmacy as needed, to be by them used solely to defray the expenses of prosecutions and enforcements under the act or acts to which this is amendatory.

SEC. 3. Auditors shall at any time, upon written application therefor, issue to any pharmacist within their respective counties whose certificate of registration is in full force and effect, a permit to receive intoxicating liquors and the presentation of such said permit to any railway express company or common carriers within the borders or traversing the territory of the State shall convey full authority to receive, transport and deliver intoxicating liquors to the person named in such permit. Provided, that each such permit shall be for specified packages and kinds of liquors, and that a certified copy of each such permit shall be kept on file in the office of the auditor issuing the same.

Sec. 4 provides for the payment of an annual license of $100 by itinerant venders of drugs, the money thus collected to be paid to the auditor of the State, and the sum of $2,000, or any part of it, paid over to the Commission of Pharmacy for their expenses, the balance to go into the State treasury. It further provides for a fine of $100 or not over $200 upon conviction of violation of above section.

Sec. 5 proposes to strike out the clause which admits graduates in pharmacy without examination by the Commission, thus abolishing all diploma distinction. The right is reserved to physicians to dispense medicines for their own patients.

The sections, after some more discussion, were each almost unanimously adopted. Then, upon motion, the association adjourned until 2 P. M.

Thursday Afternoon—Fifth Session.

The association was called to order by President Wallace at 2:45. The minutes of the previous meeting were read and adopted. Two applications for membership having been acted upon by the committee, the persons named were elected.

Mr. McBride moved for a reconsideration of the section regarding the abolition of diploma distinctions. Mr. Crawford moved as a substitute that the section remain as in the old bill, but giving the Commission discretionary power in regard to the recognition of diplomas. Mr. Wall of St. Louis, being called upon, maintained it was unjust not to recognize the graduates of pharmacy from good colleges. He contended that the cause of pharmaceutical education required that all possible inducement be offered for young men to properly qualify themselves by going to college. He cited as an illustration that a young man passed a successful examination recently before the Missouri State Board of Pharmacy, when just previously he had failed to make the junior examination at the St. Louis college. A young man once registered rarely attended a college. He hoped that the association would give he section careful consideration before its final passing.

Mr. Hallberg, of Chicago, desired to be heard in connection with the discussion of this question, since it was one not only of great importance, but embodied a principle of equal rights which has come to be generally recognized and had already found expression in the laws of the States of Ohio, Michigan, and elsewhere. While he conceded that every inducement should be offered young men to attend college, yet it was a dangerous thing to endow colleges with authority co-equal and even superior to that of the Commission of Pharmacy. The consequences were fraught with danger to the public, as illustrated in the recent decision of an Illinois appellate court, which denied the right of the State Board of Health to revoke the license of one of the most notorious quacks in the State, because of his holding a diploma. He held that the status of the medical profession could never be raised until the commission was given authority to require that graduates of inferior or short term colleges shall pass an examination before registration. In Germany and other European countries where the state controls the standard for registration the status of the professions of medicine and pharmacy are correspondingly high. As for the standard for examination that was a matter which the commission held in their own hands, and could if necessary raise it so as to compel a college course by all applicants. After some further discussion during which Mr. Hallberg stated that the president of the American Pharmaceutical Association at its lastmeeting recommended that all diploma distinction be abolished; that these sentiments were indorsed

by the committee and by prominent pharmacists generally Prof. Lloyd, of the Cincinnati College of Pharmacy, was always strongly in favor of it and was instrumental in having the Ohio law so drafted. The motion to reconsider was put to a vote, and the chair being unable to decide a division was called for, resulting in the chair declaring the motion carried. Mr. Crawford's amendment was then adopted retaining the former section but giving the commissioners the right to discriminate.

Mr. Randall wanted an additional clause making the penalties for buying the same as those for selling liquors. After discussion the amendment was rejected.

The report was then adopted as a whole by a unanimous vote. Mr. Schafer expressed very feelingly his pleasure over the fact that the labors of the Legislative Committee had met thus uniformly the wishes of the association.

The report of the Committee on Exhibits was rendered by Mr. Broadie.

Mr. Wangler, of the Blackhawk County Pharmaceutical Association, tendered an invitation to hold the next meeting at Waterloo. The invitation was almost unanimously accepted. Mr. Harrison introduced a resolution instructing the Committee on Legislation to incorporate the following:

Resolved, That the Commissioners keep the county auditors informed as to the standing of pharmacists and to issue permits to such selling liquor under the law.

Dr. Upson read a communication from a member of the House asking the association to pass a resolution expressing sympathy with the aim of the State Medical Association for proper and medical legislation.

The following were appointed a Committee on Fire Insurance: J. W. Ballard, Davenport; Lyman Bissell, W. K. Gibbons, Chariton.

Mr. Schaefer offered the following:

Resolved: That the Iowa State Pharmaceutical Association gives its hearty support to the bill before the General Assembly relating to the practice of medicine, surgery and obstetrics. It must, however, ask, for the benefit of both professions, that any features of the bill contravening the pharmacy law must be carefully considered (referring to the ... grant vender section). Carried unanimously.

Another to the effect that all applicants for membership must be registered pharmacists.

It was moved that delegates to the A. P. A. and N. R. D. A. be appointed by the executive committee.

It was also decided that the next meeting be held the second Wednesday in May, at Waterloo. Nominations for officers for the ensuing year being in order, the following were elected by ballot:

President, A. H. Miles, Des Moines; First Vice-President, E. L. Boerner, Iowa City; Second Vice-President, J. P. Van Cise, Mt. Pleasant; Third Vice-President, S. G. Winchester, Eldora; Secretary, Rosa Upson, Marshalltown; Local Secretary, C. D. Wangler, Waterloo; Treasurer, C. H. Ward, Des Moines; Executive Committee, W. C. Bryant, Cedar Falls; W. S. McBride, Marshalltown; J. H. Harrison, Davenport.

Mr. Bryant was appointed a committee of one to introduce the newly elected officers to the association. President Wallace, in relinquishing the gavel, thanked the association for the courtesy and cordiality with which he had been treated by all. The officers elect, in turn, acknowledgeed the compliment of their election.

A resolution was introduced by Mr. Myers conveying the thanks to the retiring officers.

On motion of Mr. Schafer the executive committee were instructed to embody the principal events of the last annual meeting at Council Bluffs in the proceedings of the present meeting of the association in Des Moines. The thanks of the association were tendered Mr. G. P. Engelhard for securing reduced railway rates, and to the WESTERN DRUGGIST for its reports of proceedings.

The association then on motion adjourned.

Nearly 200 members were present, all sections of the State being well represented. About fifty registered pharmacists were elected to membership.

MEMBERS PRESENT.

A. G. Brenton, Adel.
L. A. Shutz, Algona.
M. P. Sigworth, Anamosa.
Wm. Cloughley, Audubon.
J. S. Draper, Boone.
Hy. Thormahlen, Boone.
J. N. Bissell, Brandon.
J. C Ballantine, Brooklyn.
A. M. Kirk, Cedar Rapids.
A. J. Dusill, Cedar Rapids.
Chas. R. Kirk, Charitan.
T. C. Ballard, Chicago.
S. B. Hamilton, Clarion.
Fred Lax, Colo.
John W. Ballard, Davenport.
J. H. Harrison, Davenport.
L. Chamberlain, Des Moines.
M. N. Ward, Des Moines.
C E. Harlan, Des Moines.
A. R. Rue, Des Moines.
L. G. Taylor, Dunlap.
S. G. Winchester, Eldora.
John W. Starr, Fairfield.
R. W. Crawford, Ft. Dodge.
Alfred Johnson, Given.
A. D. Lemmon, Guthrie Center.
E. D. Nickson, Humboldt.
A. H. Wallace, Independence.
R. S. Armstrong, Indianola.
E. L. Boerner, Iowa City.
D. P. Hill, Kellogg.
W. V. Elliott, Knoxville.
M. L. Cummings, La Porte City.
Henry Huton, Madrid.
G. A. Isbell, Maquoketa.
J. C. Alverson, Marengo.
A. R. Townsend, Marshalltown.
Dr. Rosa M. Upson, Marshall't'n.
W. S. McBride, Marshalltown.
P. Engeldinger, Martinsburg.
J. T. Robinson, Martinsburg.
A. L. Dalrymple, Monroe.
L. W. Chamult, Montezuma.
L. F. Powers, Mt. Vernon.
S. H. Kerr, Muscatine.
R. E. Wick, New Hartford.
A. G. Anderson, Ogden.
Frank Sampson, Osage.
Janson Roberts, M. D., Osceola.
N. J. Bentley, Oskaloosa
O. B. Haden, Panora.
H. S. Keble, Pella.
D. S. D. Mealy, Pleasant Plain.
J. F. Sprague, Russell.
Remert Hetlesaeter, Sheldahl.
B. Tewsbury, Sigourney.
Jno. P. Flower, St. Louis.
J. A. Treat, Stuart.
R. C. Wangler, Waterloo.
C. D. Wangler, Waterloo.
A. A. Broadie, Waverly.
C. P. Peterson, Wolford.
F. E. Houghton, Adel.
Jerome Burbank, Allison.
Jno. C. W. Casy, Atlantic.
N. Nichols, Belleplaine.
Chas. H. Wells, Boone.
Theodore De Tum, Boone.
Lyman Bissell, Brandon.
W. C. Bryant, Cedar Falls.
W. L. Wellar, Cedar Rapids.
G. H. French, Cedar Rapids.
H. F. Miller, Charles City.
J. P. Burrows, Clarinda.
J. G. Hustetter, Colo.
A. J. Weeks, Correctionville.
C. A. Vincent, Davenport.
A. H. Miles, Des Moines.
Norman Lichty, Des Moines.
Chas. A. Weaver, Des Moines.
H. C. Leroy, Des Moines.
B. Michel, Dubuque.
J. Trueblood, Earlham.
Geo. D. Clark, Fairfield.
G. H. Schafer, Ft. Madison.
J. L. Cole, Greene.
W. J. Stewart, Grimes.
P. Engledinger, Hedrick.
C. R. Wallace, Independence.
F. E. Hunter, Independence.
J. L. Hoog, Iowa Falls.
Henry Louis, Iowa City.
W. L. Evens, Jessup.
Y. S. Fuller, Keokuk.
J. J. James, La Porte City.
Wm. Geddings, Logan.
G. A. Jewell, Maquoketa.
Geo. D. Stevens, Marengo.
H. W. Gifford, Marshalltown.
W. H. Evans, Marshalltown.
M. W. Bibbins, Marshalltown.
J. S. Robinson, Martinsburg.
Jr. Hedrick, Martinsburg.
S. J. Spaulding, Milo.
J. Roberts, Montezuma.
J. P. Van Cise, Mt. Pleasant.
G. V. Myers, Mt. Verson.
C. M. Paschal, New Market.
F. G. Crandall, Omaha.
J. F. Dartey, Osage.
R. F. Garretson Osceola.
J. W. Morgan, Oskaloosa.
E. G. Lank, Panora.
W. W. Dewitt, Petereon.
S. S. Robinson, Polk City
J. F. Sprague, Russell.
A. V. Penn, Sidney.
E. Laffer, Sigourney.
A. B. Hopkins, Stratford.
P. McDermit, Fontanelle.
W. W. Forry, Waterloo.
J. E Evyland, Wauson.
E. H. King, West Liberty.

ILLINOIS BOARD OF PHARMACY.

There will be a meeting of this board at the Grand Pacific Hotel, Chicago, on Tuesday, Feb. 23, 1886, at 10 o'clock A. M., for the examination of applicants for registration as Licentiates in Pharmacy. Blank applications may be had from members of the Board and must be filed prior to examination. Pharmacists desiring clerks should correspond with the undersigned.

CHAS. W. DAY, Secretary.

SPRINGFIELD, ILL., January, 1886.

MICHIGAN BOARD OF PHARMACY.

A meeting for examining candidates for registration under sec. 5 of "an act to regulate the practice of pharmacy in the State of Michigan" will be held by the Michigan Board of Pharmacy in the Board of Supervisors' room, circuit court building, Grand Rapids, Mich., Tuesday, March 2, 1886, at 9 o'clock A. M.

Candidates for examination will please report at above rooms at that time.

Blank forms can be obtained from any members of the board on application. JACOB JESSON, Secretary.

MUSKEGON, MICH., Feb. 1, 1886.

THE WESTERN DRUGGIST.

VOL. VIII. No. 3. MARCH 15, 1886. { Subscription Price, $1.00 per annum. G. P. ENGELHARD & CO., Chicago.

(Communicated.)

THE LITERATURE OF PHARMACY.*

BY ALBERT B. PRESCOTT.

DEAN OF THE SCHOOL OF PHARMACY OF THE UNIVERSITY OF MICHIGAN.

The scope and strength of any calling or profession may be fairly determined by the character and extent of its proper literature. The helpfulness of any professional body for the benefit of its own members is justly measured by the value of the literature it has created for the professional use.

People sometimes ask questions about pharmacy --what it is, and what it is going to be, in the world. The pharmacist sometimes asks himself, does he verily receive good from pharmacy as an organization of industry and learning in every civilized country, or is he left, as a member of an illiberal calling, to make his own way, with no benefit from all that pharmacy has done under the sun.

What has pharmacy done to deserve confidence? What labors have been devoted in the name of pharmacy for the benefit of all the faithful toilers who dispense remedies at the call of the public by day and by night without question or complaint? Is there any republic of letters in pharmacy? Mr. Pharmacist, what is the literature of your profession, and what help can you get from it?

A professional literature may be divided into (1) works of periodical issue, monthlies, year-books, quarterlies; and (2) works of a single or discontinuous issue, in books and pamphlets.

Again, the literature of a profession or calling may be divided into (1) original works and articles, designed to add to the actual sum of human knowledge in literature; and (2) compilations and works for instruction, designed to impart from the sum of human knowledge, and make learning more accessible.

The reports of original researches and observations are mostly given in the periodicals, but sometimes in books. The compilations, abstracts and summaries of positive knowledge are given in books as well as in journals.

Compilations include, *first*, works intended mainly for continuous reading, such as text-books, systematic monographs, articles on distant subjects, editorial reviews, and summaries wherein all statements are fused together. *Second*, works intended mainly for reference, such as dictionaries, encyclopædias, the dispensatories, and summaries wherein all statements are set apart from each other. Of course this division of uses is not absolute; systematic treatises are employed for ready reference, and reference works are useful in continuous study.

In the non-professional reading matter of every-day life it is accounted that books and other works of single issue are permanent literature, and that periodicals and works of continuous issue are of only evanescent value. The reverse is much more nearly true of professional or scientific reading matter. Books that are to represent the final statements and conclusions of science soon become superseded by later statements and conclusions; new editions are necessary, and if obtained, then previous editions are worthless to the possessor of later editions; and any given edition decreases in value as each year elapses. On the other hand, periodicals are designed to give record of the reports upon science for the period of issue; the reports for 1885 will never cease to give the record of investigations in that year, and the volumes of an unbroken set of any professional journal publishing original research (as either contributed or selected matter) increase in value as years go by. The unbroken sets of the leading serials of a profession constitute its really permanent literature. Of pharmaceutical and chemical publications, the most substantial journals, when over twenty-five years of age, cannot be bought in complete sets for the subscription price. The chief journal devoted to analytical chemistry alone, a German publication, when about fifteen years old, received such a demand from all parts of the world for its complete sets, as the continuous repository of analytical chemistry from 1862, that the back volumes, which had not been stereotyped, were again set in type for the printing of a new supply.

A pharmacist's library is always indispensable and of constant use in his work, whether its extent be that of half a dozen or of hundreds of volumes. And every pharmacist knows right well that under the demands of his practice printed matter is much more in use for ready reference than for didactic reading. A new edition of a dispensatory, a new revision of the Pharmacopœia of this or another country, a new work of any branch of the art, is to be put on the book-shelf to be ready for brief reference when wanted. And reading by reference is apt to be done the best when the reader has only just enough time to find what the subject demands, and has not time to be drawn off in the reading of something just because it catches the eye. But every reader, whether time presses or not, ought to be set against drifting over printed pages. Time is man's estate; quite too precious to run away in reading without decisive purpose. To the thoughtless question, "How can you find time to read those large books?" it may be replied, "I would not waste time in reading

*A lecture before the Detroit Pharmaceutical Association Jan. 20, 1886.

them by course, but in order to save time I read them by reference."

Respecting the uses of the journals, coming by mail while the druggist is pressed with work, coming upon a desk strewn with letters and bills and advertisements, bringing certain of the same articles in every journal, bringing advertising leaves to begin with and to end with, and (alas!) often interleaved with the reading matter—what is to be done with them? As they accumulate they become lumber—the very lumber for the building of a pharmaceutical library. Take care of them as they come: (1) Put each number in its place, and keep the files in order; (2) See what articles are in the last number, and read some of the current intelligence as soon as there is time for it; (3) Read such of the solid articles as are of interest and profit to you when there is leisure for that, reading if possible with frequent references to your library; (4) Fasten upon the index of the completed volume, and keep it as the key to the value of that volume in your library. If the index disappears, send for another at once before it gets out of print. A back volume without an index is rubbish, and a broken volume impairs the set. Any periodical in pharmacy that provides a good alphabetical index deserves to be preserved. If not yet esteemed very highly, it is to be remembered that the publication may improve, and the set become serviceable, when the mutilation of the first volumes will be regretted. When any volume is completed, the sooner it is bound the better, but if it be not desired to bind every set at once, the volumes may be stitched or banded, or at any rate placed neatly in order, for possible reference, and against a probable future wish to have them bound. In directing the binder, be explicit as to lettering, with both year and volume upon the back, sending a pattern volume. A set in very cheap binding, strictly uniform, is pleasing to the eye, and satisfactory to the owner.

It is inevitable that every really valuable article goes into a good many of the journals, and therefore the owner of many sets of periodicals has much repeated matter on his shelves, but this is not an actual disadvantage. Every serial has some articles not in other serials, and by a good number of sets all valuable contributions are secured. Then a large part of the best literature originates in languages other than the English, and in publications but thinly represented in private libraries, and the cream of this foreign literature finds its way in abstracts and transcriptions, some in one journal and some in another, so that from three to six home serials will contain much more of this valuable matter than any one serial can contain. A given article from a German or French publication abstracted hastily for one journal finds correction or amplification by its abstract in another journal, so that in absence of the original it is desirable to have several abstracts. In doing pharmaceutical work it is well to get all the side-lights that can be opened up.

Readers will please to observe that by having a number of good serials almost every important contribution can be reached in a few moments. Thus, in a question that concerns you, you see in the Dispensatory the reference, "Williams, 1878," and you turn to the index of the volumes of the several journals and the year-book for 1878, remembering that it may have got over into 1879, and here or there you find the entire article. Or on another question you are cut off by the reference, "Archiv der Pharmacie, 22, 260 (1883)," and, thanks to the kind information that the article came out in 1883, not stopping a moment for lack of "Archiv d. Phar." itself, you run over the volumes you have for that year, and find a full translation or an abstract or two of the desired article.

It should be urged upon editors and abstractors that on a given topic the most generally useful direction for references is the very brief one of author and year; that these should come first, whatever follows; and that the addition of the title of the serial with its volume and page, completes the direction. The month or number of the serial is of no consequence. And in giving "credits" for a selection or a fragment the name of the author should be given as well as the reference to the publication where the article first appeared. Gleanings from the best articles of all journals will constitute valuable and permanent literature, if not sent straying the rounds of the press like fatherless waifs, with careless "credit" to the so-and-so for such a month, but without credit to anybody responsible for their correctness. The name of the author is to be prominent before the reader; the name of a journal, or a year-book, or of a dispensatory is not an authority for the character of a statement. In the index to the volume of any periodical it is highly desirable that all authors' names be given in their alphabetical position, including not only the names of authors who contribute directly to the periodical, but of authors whose articles are selected or given in abstract. For instance, the reader is looking for some account of an investigation of Mr. Dunstan, of England, a year or two ago, on the quantity of strychnine in tincture of nux vomica. Not having at hand the Phar. Jour. and Trans., the reader takes up the home journals for 1883 and for 1884. If authors are indexed, he can look confidently for the single word "Dunstan." If only subjects are indexed, he looks doubtfully under "nux vomica," or "tincture," or "strychnine," or "alkaloidal strength," and may turn to all these words before finding his reference, or deciding that the volume does not contain the item sought. The European periodicals have the author's index separate from the index of snbjects. This is the better way, but we would be satisfied for the present if the authors were indexed in any shape in all our pharmaceutical publications. It is the privilege of readers to require that any periodical obtaining their attention and favor at all shall not merely catch the eye while it is fresh from the mail, but shall in good part be worth keeping and consulting in its completed volumes, no matter whether it asks the patronage of trade interests or of scientific interests. Readers may demand and publishers will provide that all the pharmaceuticul press be made, in its arrangement of matter, permanently serviceable as a voice of practical experience, a record of research, a store of information, and an exponent of ripe conclusions in the pharmaceutical world.

Having in hand almost any question of consequence in practical pharmacy, and consulting eight or ten volumes of any three or four periodicals of the profession, one is sure to be impressed with the richness of the literature to be found in re-

peated contributions. The concisely stated results of days and months of patient toil, the clear declarations of men of eminence, and the history of years of discussion, are given to the mind in very little time. Before experimenting on any question, it is a matter of mere economy to look the question up in works of reference.

So far we have given attention to the uses of publications which every dispensing pharmacist has or easily may have in his own library. But in order to see how much professional help pharmacists as a body receive from pharmaceutical literature as a whole, we must enter upon a survey of the extent and character of this literature, another part of our subject.

(Concluded next month.)

NOTES ON THE COMPARATIVE COLOR REACTIONS OF STRYCHNINE, GELSEMININE, HYDRASTINE AND BERBERINE.

BY A. B. LYONS, M. D.

The most characteristic chemical test for strychnine is the series of splendid colors it yields when its solution in sulphuric acid is brought in contact with an oxidizing agent. The smallest visible fragment of the alkaloid or of one of its salts will reveal in this way its identity. It is needless to say that the absence of gross impurities must be assured before applying a test of this character. Many organic substances are blackened and charred by strong sulphuric acid alone, and many others reduce the oxidizing agents employed in this test, producing various colors which may modify or conceal those for which we are watching.

By use of appropriate solvents in a definite order, however, we can readily separate strychnine from nearly all organic substances not of an alkaloidal character, so that in studying the color reactions of strychnine we need pay little or no attention to interfering impurities other than alkaloids.

The behavior of all the more common alkaloids toward the reagents employed in the strychnine test have already engaged the attention of chemists, and are treated fully in works on toxicology. In examining the reactions, however, of some of the alkaloids which, until recently, have been less known, I find some bearing a more or less close resemblance to those of strychnine, and I have, therefore, thought it worth the while to make a somewhat careful comparative examination of those most likely to be met with in toxicological researches. Some of my results I present in this paper.

When *strychnine* is dissolved in strong sulphuric acid and a fragment of black oxide of manganese, or other oxidizing agent is brought into the solution, there appears immediately an indigo blue color which rapidly changes to purple, and violet, fading to a red which persists for some time. With different oxidizing agents, the colors are developed with different degrees of rapidity and intensity, and with modifications which make it important that the operator familiarize himself thoroughly with the peculiarities of each, or confine himself to one. Preference is given by some to the bichromate of potassium, by others to ceroso ceric oxide, and by others again to manganese dioxide, or potassium permanganate.

The best plan, when the quantity of material will permit it, is to produce the crystalline precipitate of strychnine chromate, showing under the microscope a characteristic form, and then to apply to these crystals sulphuric acid.

My experiments have been made with the various reagents named, and some others in addition. They have also involved the use of sulphuric acid of varying degrees of concentration.

Employing potassium bichromate as the oxidizing agent, it was found that with an acid containing less than sixty-six per cent. H_2SO_4 the initial blue color was not produced. With an acid of 60 per cent. the color was first purplish, becoming mahogany brown, and fading to green without developing the usual red. With a 50 per cent. acid only a brown color was produced, and when the strength of the acid was reduced to 36 per cent. the brown was only slowly and feebly developed.

With ceroso ceric oxide the initial blue did not appear with acid containing less than 80 per cent.; with a 66 per cent. acid, the color was purplish red; a 50 per cent. acid gave slowly a dull red, purple tint.

With manganese dioxide, even a 60 per cent. acid gave, slowly, the usual succession of colors; a 50 per cent. acid gave the colors faintly, and even with a 36 per cent. acid, they were perceptible, but could not in either case have sufficed to identify the alkaloid.

Iodate of barium did not produce the usual colors; it gave slowly, with the concentrated acid, a reddish to a violet color; nitrate of sodium with sulphuric acid, developed after some time a red tint.

Gelseminine produces reactions that may sometimes be confounded with those of strychnine. I have examined some commercial specimens of the alkaloid, and others prepared expressly for these experiments, and I find that the colors it produces are not always the same. The product which I believe to have been the most pure (unless it shall turn out that there is more than one alkaloid yielded by gelseminine) gave the following:

With strong sulphuric acid and potassium bichromate, there was developed at once a splendid violet purple, fading quickly to gray, without assuming like strychnine a red color; the final color was dingy green. Ceroso ceric oxide and concentrated sulphuric acid gave a violet, fading slowly through a red shade. Manganese dioxide, and potassium permanganate produced a deep violet, rather less transient. Barium iodate gave only a faint brownish color, and sodium nitrate the same. With each of the reagents named, strong sulphuric acid was used.

Gelseminine gave with manganese dioxide and sulphuric acid of 75 per cent. only a faint and transient purple or violet. Weaker acid did not develop with this or the other oxidizers, the color reactions.

A second specimen of gelseminine produced with the reagents and strong acid a rich cherry red instead of a purple. Still another specimen produced with manganese dioxide and strong acid a splendid purple red, becoming indigo, and then olive green. With ceroso ceric oxide, this specimen gave a purple red changing partly to red, and partly to a bright green; an excess of the cerium produced a rust brown.

I am inclined to believe that these anomalous colors are due to something besides gelseminine, which appears to produce normally a pure violet purple.

Hydrastine (white alkaloid of golden seal) dissolves in sulphuric acid with only a faint yellowish coloration. If the solution be heated, it becomes suddenly tinged a purple brown.

Oxidizing agents produce with this alkaloid colors very similar to those that have been heretofore described as characteristic of gelseminine, although not, as I believe, in reality belonging to that alkaloid in a state of purity. With manganese dioxide and strong sulphuric acid, there is produced momentarily a green color, so dark as easily to elude observation; this gives place to a brown which passes through mauve to crimson or carmine, becoming finally orange yellow. With a weaker acid the colors succeed one another more slowly, and are more easily observed. Thus, with an acid of 75 per cent., the colors are in succession, green, greenish brown, warm brown, mauve, fading. With a 66 per cent. acid the green color alone is observed, and a faint shade of olive green is perceptible, even with an acid of 40 per cent.

The characteristic color developed by the other agents is in general a cherry red, requiring, to develop it, an acid of at least 75 or 80 per cent. With ceroso ceric oxide the color is paler, verging on orange red; with potassium bichromate, a rather pale red, giving place to greenish. With an acid of 66 per cent. the last named reagent produces a transient brown, rather than a red followed by green, while with a weaker acid it gives simply green, the diluted solutions exhibiting a blue fluorescence.

If the precipitate produced in solutions of hydrastine by potassium bichromate be touched with strong sulphuric acid, it becomes at once deep red, the color soon fading.

With strong sulphuric acid containing 1 per cent. or less of nitric acid, hydrastine produces a pale red solution.

Strong nitric acid produces an orange yellow solution, showing when largely diluted a blue fluorescence. This fluorescence is a characteristic result of the action of oxidizing agents except in conjunction with strong sulphuric acid.

Barium iodate and moderately strong sulphuric acid produce a greenish yellow, becoming gradually blood red. With a 75 per cent. acid the red color develops slowly in streaks; with a weaker acid, the color remains yellow.[1]

With barium iodate and strong sulphuric acid, morphine produces first a dark purple brown color, soon fading, with separation of iodine. With acid not of full strength there is liberation of iodine, without previous development of this color.

Sodium nitrite and strong sulphuric acid produce an orange red color, becoming gradually dark brown, rather permanent. With acid of less than 80 per cent., only an orange or yellow color is produced, a 50 per cent. acid giving only a faint yellow.[2]

1 Barium dioxide and concentrated sulphuric acid yield with hydrastine a yellow color, slowly changing to a pale purple brown. Sulpho-molybdic acid produces with hydrastine a deep sage green, slowly changing to a brownish color and then gradually fading, a characteristic and distinctive reaction.

2 This reagent, with morphine, produces a striking color reaction, giving first a blue black, then dark brown, olive brown, green, orange, in succession.

Berberine produces color reactions of great intensity and variety. Owing to its own yellow color, it is not likely to be mistaken for strychnine, but its accidental admixture with that alkaloid would interfere seriously, as will appear, with the identification of the poison. With the method of separating the two, I am not now concerned.

Berberine dissolves in sulphuric acid under a transient brown coloration to a deep yellow, or orange yellow solution.

Nitric acid, sp. g. 1.4, produces with the alkaloid a deep blue purple color, changing quickly to brown, then fading to orange; finally red brown. A weaker acid produces slowly a reddish coloration.

With strong sulphuric acid and potassium bichromate, there is produced at first a color nearly black, quickly fading through shades of brown and violets to yellow. If the acid is of 75 per cent., the initial color is a brownish purple, giving place soon to a purple which fades to dull red, the succession of colors being strikingly like those produced by strychnine. The distinguishing peculiarity is absence of the initial blue. With a still weaker acid, the color is brown, maroon, or raspberry red, varying greatly with the proportions of alkaloid and of reagent. Even with acid of 36 per cent. a purple red is slowly developed.

With manganese dioxide and strong sulphuric acid, there is produced a brown, becoming quickly violet purple, then fading through brown to orange, with shades of green in streaks. Nearly the same results are obtained with any acid of more than 60 per cent. With an acid of 50 per cent. there is produced a brown changing to violet purple. With a 36 per cent. acid, there slowly appears an amethyst purple.

With sulphuric acid and ceroso ceric oxide, the colors are brown, violet, dull red, yellow. Dilution of the acid affects the test precisely as where the manganese oxide is used.

Sulphuric acid and barium iodate give nearly the same colors, which develop slowly where the acid is of 50 per cent. strength.

With sulphuric acid and binoxide of barium there is gradually produced a deep brown purple. This reagent does not produce colors with strychnine or with gelseminine; with morphine it gives a strong yellow color, if the morphine is in sufficient quantity, and the reagent is not in excess.

Sodium nitrite and sulphuric acid give also a deep brown, passing slowly into purple.

Experiments were made, in addition to those above described, with potassium permanganate, and potassium ferricyanide as oxidizing agents. The former was found to act in almost precisely the same way as manganese dioxide, and the latter as ceroso ceric oxide.

To recapitulate: The characteristic colors developed by oxidizing agents applied to solutions in sulphuric acid of *strychnine* are, indigo blue, purple, violet, giving place to a rather permanent pale red. The acid must be moderately strong in order to develop them (66 to 80 per cent., or stronger, according to the oxidizing agent).

Gelseminine with the same reagents develops a rather transient purple color, not preceded in any case by indigo, nor changing generally to red. Some specimens of gelseminine dissolve in the sulphuric acid in the first instance to a yellow solution, and produce, not a purple, but a deep cherry

red or even a maroon, the colors being very similar to those produced normally by hydrastin. The acid must be of at least 75 or 80 per cent. to develop the colors.

Hydrastine produces as its characteristic color crimson, preceded by brown, sometimes with an initial green. The acid requires to be of a strength of 66 to 80 per cent. Colors are produced by sodium nitrate, by nitrates, or traces of free nitric acid, by barium dioxide, and by barium iodate.

Berberine produces an intense purple color, preceded generally by a brown, and rather persistent, in contrast with that produced by pure gelseminine. The colors are developed even by an acid of 40 or 50 per cent., and by oxidizing agents, such as sodium nitrate, barium dioxide, nitric acid and nitrates, a barium iodate, which are inoperative in the case of strychnine and hydrastine.

DETROIT, Feb. 13, 1886.

THE PROPERTIES AND PREPARATION OF PEPTONE are treated in the Pharm. Zeit. (Ther. Gazette) in an instructive manner.

It is usually assumed that peptones are gained by hydration from albumen, such as egg-albumen, caseine, proteine, and meat-albumen, and that this hydration takes place, if pepsin, pancreatic juice, or papaya-juice, in an acid solution, are made to react on the mentioned albuminous substances. This assumption is all the more justifiable, as peptone can be retransformed into albumen by dehydrating substances. It was believed for a long time that the latter reaction took place within the human economy until Hofmeister proved experimentally that peptone passes the kidneys unchanged, unless the white blood-corpuscles of the intestinal mucous membrane have appropriated it. According to this author, then, no such retrograde change as formerly believed takes place.

The mode of preparation of peptone is very variable. Some use eggs, some meat, others again milk, while papaya-juice, pepsin or pancreatic juice are selected by still other manufacturers. It is clear that the preparations of peptone are consequently very different in concentration and physiological action.

The chemical properties of an eligible peptone preparation are as follows:

I. Mixed with at least two parts of water, peptone ought to form a perfectly fluid, non-gelatinous liquid.

2. A ten per cent. solution should not grow turbid on the addition of acetic acid, muriatic acid, or ferrocyanide of potassium.

3. On the addition of a solution of picric acid or of tannic acid, yellow flocculi should appear.

4. With sulphate of copper in strong potash solution a violet color should result.

PILOCARPINE IN TOOTHACHE.—Hypodermic injections of pilocarpine, according to Kurzakoff in the Medical Press, will relieve toothache. A solution of 2 grains of the salt in ½ ounce of distilled water was used, the injection being made into the temporal region on the side of the odontalgia. In two of the cases one-eighth, and in a third case one-quarter, of a grain of the salt was injected. In all the cases pain disappeared permanently in about an hour after the injection; about the same time salivation and perspiration (caused by the drug) also ceased.

A NEW METHOD OF INTRODUCING MEDICINE INTO THE SYSTEM.

A new method of introducing medicine into the system was proposed by M. Brondel at a meeting of the French Academy of Medicine (Progres Medicale), by means of electricity. If the electric current is made to pass through a solution of a salt, the salt is decomposed, the metallic base passing to the negative pole, and the acid, or metalloid, to the positive pole. The iodines are easily decomposed by electricity. In order to introduce iodine into the system, a rubber plate, moistened with a solution of iodide of potassium, is placed upon the surface of the body. Over this plate the negative pole of a battery is applied, while the positive pole is placed upon a part of the body toward which it is desired that the iodine travel. The iodine separates from the potassium, which remains at the negative pole, and passes with great rapidity through the tissues toward the positive pole. This may be demonstrated by testing with a starched paper, which becomes blue. A great number of substances can thus be made to traverse the tissues, and the applications of this discovery are numerous and important. M. Brondel has in this way cured uterine fibroids, a case of perimetritis, rheumatic ovarian neuralgia, and several cases of chronic rheumatism.

JOSEPH P. REMINGTON.

Joseph Price Remington, son of Dr. Isaac and Lydia Hart Remington, was born in Philadelphia, March 26, 1847. His father, a well-known physician of Philadelphia, died when the present subject was fifteen years old. His maternal grandfather was John Hart, an apothecary of Philadelphia in the early part of the present century. His great-grandfather, Townsend Speakman, was one of the first apothecaries located in Philadelphia, emigrating from England soon after the settlement of Pennsylvania. His ancestors on both sides of the family have been for three generations residents of Philadelphia, and members of the Society of Friends. The education received by the subject of this sketch was a good English one, acquired in the Central High School and the Friends' schools in Philadelphia.

In 1863 he was engaged in the wholesale drug business with Charles Ellis, the president of the Philadelphia College of Pharmacy, with whom he remained four years. Graduating at the college in 1866, the following year he entered the laboratory of Dr. E. R. Squibb, residing with the latter at his home in Brooklyn during his engagement. On the death of his mother, in 1869, he relinquished this position and returned to Philadelphia, and was engaged by Powers & Weightman, with whom he remained three years. In 1872 he purchased the pharmacy at the northeast corner of Thirteenth and Walnut streets, in Philadelphia, and thus began his career as a practical pharmacist upon his own account. For two years he had been an assistant of Prof. Edward Parrish in the chair of pharmacy at the Philadelphia College, and upon the death of the latter, in 1872, he continued in

PROF. JOSEPH P. REMINGTON.

the same position under Prof. Wm. Proctor, who had resumed his old position in the chair of pharmacy. Upon the death of Prof. Proctor, in February, 1874, he was unanimously elected to succeed him. He occupies the chair of theory and practice of pharmacy at the present time. His connection with the American Pharmaceutical Association began in 1868, being elected a member at the New York meeting. He served as chairman on Committees of Adulterations and Sophistications, Papers and Queries, Centennial Exhibition and numerous others, and contributed many papers on various subjects. He was elected Chairman of the Council of the American Pharmaceutical Association upon its establishment in 1880, and has been re-elected subsequently each year.

Upon the death of Dr. George B. Wood, surviving author of the "United States Dispensatory," he was asked by the editor, the nephew of the author, Prof. Horatio C. Wood, to associate himself with him in the preparation of a new edition of this standard work. This was accomplished with the additional assistance of Prof. Sadtler, and the fifteenth edition was issued in 1883, just fifty years from the date of the publication of the first edition. In 1879 he was appointed by the Philadelphia College of Pharmacy one of its delegates to the national convention for revising the Pharmacopœia, which met in Washington in 1880. After the election of the final Committee of Revision of the Pharmacopœia he was made first vice-chairman of this body. In 1877 he instituted a system of instruction in practical pharmacy in the Philadelphia College of Pharmacy, which led to the erecti n of a pharmaceutical laboratory, the essential feat-nres of which have been adopted by nearly all the colleges of pharmacy in the country. The work recently issued, "The Practice of Pharmacy," embodies the experience in the wholesale manufacturing and retail drug business extending over a period of twenty-three years, together with the thirteen years of experience in teaching theoretical and practical pharmacy.

In the full meridian of life, prepossessing in presence and manner, fluent of speech, equally ready for weighty argument, the logic of business or the pleasantries of a joyful company, Prof. Remington has in an exceptional degree the elements of enduring popularity and esteem. A man of sterling integrity, a high sense of honor, of strong, outspoken convictions, he naturally commands the respect and confidence of his fellows and the regard of a wide circle of friends. It must be added that as a professor and author he labors under one serious disadvantage. His ruddy face, hearty laugh, well-rounded proportions and modern attire do not comport with the angular visage, hollow voice, attenuated frame and dilapidated dress of the ideal man of learning and letters. We have heard of an aged scion of pharmacy who not very long since had come from his Southern home to Philadelphia to consult the professor on some educational matter of importance. "Is Professor Remington in?" he asked, on entering the gentleman's pharmacy, of the fashionably-attired, good-looking young man in charge. "My name is Remington," modestly replied the young man. The old gentleman glanced up in surprise and evident disappointment, then remarked somewhat impatiently: "I want to see *Professor* Remington. Will your father be in soon?"

INLAND REVENUE REGULATIONS IN GREAT BRITAIN.

The Chemist and Druggist for January presents an interesting abstract of a report by the Inland Board of Revenue relative to the taxation of spirits in Great Britain. The regulations, it will be observed, are very similar to those existing in this country, a noteworthy exception being that in Great Britain spirits are, with certain restrictions, made duty-free if methylated—that is, mixed with 10 per cent. of wood naphtha—thus solving in some degree the question now before Congress, of free alcohol for use in "manufactures and the arts."

Spirit in the United Kingdom is generally made from malted and unmalted barley, maize and other cereals, but rice, sugar and molasses are also occasionally used.

As spirit is the result of the vinous fermentation of saccharine substances, any materials containing sugar, such as beet-root, or which are composed of starch, such as potatoes, can be used, as, indeed, is largely the case.

There are three steps in the process of distillation of which the revenue laws take cognizance: (1) The "mashing" of the materials with hot water, by which the starch in the grain is converted into sugar, and the sugar dissolved; the produce of this operation is termed "wort." (2) The fermentation of the wort by the aid of yeast, by which the saccharine matter is decomposed into spirit and carbonic acid gas. This fermented wort is technically called "wash." (3) Distillation, in which the spirit is evaporated from the wash, cooled into a liquid by a proper apparatus, and obtained in a marketable form.

The duty is almost invariably charged on the spirit finally produced by distillation, but to guard against any abstraction of an article so highly taxed in the process of manufacture, a presumptive duty charge is raised against the distiller, from the quantity and gravity of the "wort" and "wash." It is based on the loss of gravity that occurs during the process of fermentation, and is technically called the charge from "attenuation." The loss of gravity depends on the amount of the spirit produced, and is greatest when the quantity of spirit produced is also greatest. Experiment has shown that at least one gallon of spirit should be produced from every 100 gallons of "wash' for every five degrees of gravity which is lost; and on this quantity, whether produced or not, the attenuation charge renders the distiller liable to pay duty, unless he can prove an accidental loss in the process of distillation.

The duty on spirits is calculated upon the quantity there would be found if they were brought to a standard strength called "proof." The Hydrometer Act, 58 Geo. 3, c. 28, defines "proof spirit" to be that which at the temperature of 51° Fahr. weighs 12-13 parts of an equal bulk of water.

It would be interesting to learn how the standard of "proof" came to be adopted, but the history of the matter is very obscure. As a matter of fact, it is found by mixing nearly equal weights of pure alcohol and water.

In order to obtain a correct account of the various distillery operations, the excise officer has to gauge the vessels, examine and take an account of the contents, and to survey the premises. The distiller is required to give previous notice of each brewing, and when the wort is collected in the fermenting utensils he has to deliver a declaration to the officer, specifying the quantity and gravity of the wort. The distiller is also required to declare the quantity of the materials used and the number of gallons of spirits produced at proof strength. The distilling process is placed entirely under the control of the excise officers, who are required to secure the stills and other vessels with revenue locks.

The spirit, when distilled, remains under the control of the officer, and cannot be removed without an official "permit." The tax at present is 10s. per gallon.

The enormous decrease that has occurred since 1875-'76 (from £31,600,000 to £28,000,000), in spite of the increase in the population during the last nine years, is most striking, and can hardly fail to be considered a convincing proof of the growth of temperance.

The report then gives a brief summary of the most important provisions of the present law relating to warehousing.

The proprietor of spirits may put them into a warehouse without paying the heavy duty upon them, and in this way save the interest on his money. The spirits themselves mature and become more valuable during the time they are so kept in the warehouse, and, lastly, the proprietor of the spirits need not pay the duty upon them until he has found a purchaser for them, or he may sell them to remain in bond in the purchaser's name. It is no wonder that with such advantages the warehousing system should have become popular. At present the amount of British spirits in warehouse is 59,245,000 gallons. This amount is in itself sufficient for the consumption of over two years, the annual consumption being now about 28,000,000 gallons.

The extension of the warehousing system in 1848 was followed by a great development of the trade in the exportation of spirits. In 1849 only 322,000 gallons of spirits were exported. In 1854 this quantity had more than doubled, and in 1855 it rose with an enormous bound to 3,840,000 gallons. Spirits exported have never since reached so high a figure, and they have fluctuated greatly. On the whole, they have averaged during the last ten years about 2,000,000 gallons, while in the preceding ten years they only averaged about 1,500,000 gallons. Last year the total was 2,588,000 gallons. The exports to America have varied but little since 1849, but we find that whereas in the earlier years of the period the United States took more than British North America, the contrary is now the case. The average of the spirits exported to the whole of America is only about 300,000 gallons a year.

Owing to the high price of duty-paid spirit, it was considered advisable in 1855 to resort to legislation for the purpose of allowing the use of duty-free spirit in connection with manufactures, in many of which spirit was absolutely required.

It was necessary that some steps should be taken in consequence of foreign competition (the duty on spirit on the Continent being low), and also owing to the general employment in manufacture of in-

ferior substitutes for spirit, by which the character of the goods themselves was injured. Accordingly an act was passed by which, subject to very stringent regulations, the use of duty-free spirit was sanctioned, provided that it was mixed with 10 per cent. of methyl or wood naphtha. The Spirits Act of 1880 makes the law very clear as to the preparation, sale and use of this compound.

The principal regulations are briefly these: No unauthorized person is allowed to methylate or to supply or to use methylated spirit. Methylation may only take place and methylated spirit may only be kept on authorized premises. The least quantity which may be prepared at one time in the case of British spirits is 500 gallons. Strict accounts of the quantities of the spirit in the possession of methylators are kept by the officers of excise, who may inspect the premises in which the spirits are deposited and take samples of the spirits themselves at any hour of the day. The chief dangers to be guarded against are use of the spirit in beverages and its employment in the preparation of medicines for internal use.

The Revenue Board has been obliged on various occasions to take proceedings for penalties in cases where the existence of fraudulent practices were discovered. In 1857 the quantity of methylated spirit used was only 209,000 gallons. The consumption, which has grown steadily, now exceeds 2,300,000 gallons. The duty on the license of a methylated spirit maker is £10 10s., and on that of a retailer 10s. The number of makers in the United Kingdom at the present time is 16, and retailers, 7,702.

Prior to the passing of the Methylated Spirit Act of 1858 the practice of illicit distillation was carried on to a very large extent. There can be no doubt that this was largely due to the increasing number of manufactures which required the presence of spirit in their composition.

By the passing of the act in question duty-free spirit, combined with wood naphtha, was allowed to be used for manufacturing purposes, and, as a consequence, illicit distillation decreased.

THE PERCENTAGE OF RESIN IN THE ROOTLETS OF PODOPHYLLUM peltatum, as compared with the resin obtained from the rhizome, has been investigated by H. W. Snow ("New Idea"), who obtained 4.67 per cent. from a specimen portion of ten grams. The smaller yield usually credited to the rootlets as compared with that of rhizome it is thought may be due to the relatively larger proportion of dirt and sand found in the rootlets. The percentage obtained, however, indicated a rather larger yield than authoritatively stated (Pharmacographia) to be the average yield of the rhizome.

THE adulteration of lupulin with sand is largely practiced in England, according to J. S. Ward. In a paper read before the Liverpool Chemists' Association he reports that the results of analysis of four samples obtained from houses of good repute justifies the belief that the lupulin of commerce will not answer the official tests. The percentages soluble in ether were 55.24, 41.49, 40.64 and 39.41 respectively, and of ash 27.01, 29.10, 30.86 and 31.42 respectively.

(Communicated.)

CANTHARIDAL COLLODION U. S. P. 1880.*

BY PROF. FR. GRAZER, SAN FRANCISCO.

To comment upon the preparation of cantharidal collodion may seem uncalled for after the attention it has received ever since its introduction as a convenient and useful epispastic, by Dr. Ilisch, of St. Petersburg in 1848, at which time ether and acetic ether were used as a means of depriving the flies of their vesicating principle, being, however, shortly afterward replaced by ether and alcohol, and this latter process was the one adopted in the Pharmacopœia of 1870.

There has always been some dissatisfaction about the preparation, as in many cases it did not meet the requirements for which it was intended. To obviate this a number of manufacturers have adopted a private process of their own, as it is readily seen upon inspecting the preparation at the present time in use no two of these being alike, either in color, body, specific gravity or vesicating properties. In two specimens examined—the labels representing the names of two prominent manufacturing firms—acetic acid, acetic ether and ether were present; in another make of standard reputation, ether alone seems to have been used, the specific gravity of this being lighter than the flexible collodion of our present Pharmacopœia, and the color brownish green, while that of the other two referred to was a bright green and in the bottom of the vial crystals of cantharidin were deposited. In another preparation which had a similar color to the one just mentioned, quite transparent and free from any sediment, the specific gravity was about the same as flexible collodion. In the preparation which I subjected to distillation, the distillate had a distinct ethereal odor; the residue in the retort was exhausted with as little carbon disulphide as possible, to remove the fatty and coloring matter, the remaining substance treated with chloroform to remove the cantharidin, which upon evaporation of the chloroform was much below the average amount that should be contained in it.

In the process official in the late revision of the Pharmacopœia the powdered flies are exhausted by percolating with chloroform; after the greater portion of the chloroform has been recovered, and the remainder evaporated to a given weight, it is to be added to the specified quantity of flexible collodion, set aside for forty-eight hours, and the clear solution decanted from *any sediment* which may have been deposited.

Chloroform is a good solvent for cantharidin and removes this readily from the flies, if these are not too old. The process of the Pharmacopœia if properly carried out, will yield good results, but the difficulty will be met with, when the residual portion is to be added to the flexible collodion; the moment this is done a jelly-like deposit will take place, due to a partial separation of the pyroxylin, which after a time may again enter into solution, or require the addition of a small portion of the flexible collodion. This perhaps would be no serious objection, but, when after the lapse of forty-eight hours or a week, and after continued agitation, we find a portion of the cantharidin deposited

* Read at a meeting of the Pharmaceutical Society of California.

that will not enter into solution, the result is not satisfactory.

This I have found to be the case, but as yet have not been able, for the want of time, to give the subject sufficient consideration, or to recommend some means by which this may be overcome, unless it be to add a sufficient quantity of collodion to dissolve the remainder. The portion decanted acted as a prompt vesicant, and no doubt in many cases the yield of cantharidin from samples of the flies operated upon may not be more than will be taken up by the required amount of collodion. But the flies contain a large quantity of fatty matter which is extracted by the chloroform. From twelve ounces of the flies one ounce of fat was obtained, which when removed by carbon disulphide left the cantharidin crystals owing to their slight solubility in this liquid. Since the fatty matter is inert, it may be removed in this way from the chloroform extract, and the nearly pure cantharidin be dissolved in the flexible collodion. The preparation may be colored green with a little chlorophyll, and during the operation the percentage yield of the cantharidin may be estimated. A collodion which I have prepared in this manner has proved to be an efficient preparation.

In an article on "Blistering by Cantharides" by Dr. Squibb (Ephemeris; W. D., December, 1885), the presence of moisture in the skin is said to be the cause in many cases of failure with the collodion, where this will not act promptly. No doubt this is the reason that acetic acid and acetic ether are used in some of the commercial articles, and which seem to be absent in that made by Dr. Squibb. The presence of acetic acid proves of some value in preventing the failure of the cantharidin to act as a prompt vesicant by the interference of moisture. Acetic acid is in itself an irritant, and may act as a vesicant. The acetum cantharide (London Pharmacop.) made by macerating one ounce of the flies in ten fluid ounces of acetic acid was shown by Mr. Redwood (1841) to depend mainly for its vesicating action upon the acetic acid, as he was not able to discover any cantharidin in the preparation.

(For the Western Druggist.)

WHAT THEY KNEW OF COCA 300 YEARS AGO.

In view of the increasing popularity which coca and its preparations have lately enjoyed, it may not be amiss to hear, also, the voice of those who lived 300 years ago, and from their familiarity with the subject are entitled to a hearing. The late Prof. Goerres, of the University of Munich, Bavaria, speaking of the initiations into the mysteries of pagan witchcraft, in his celebrated work on "Mysticism" (vol. III., chap. vii., sec. 1, page 434, Regensburg edition of 1840), says: "In this connection we should also mention what late travelers have reported on the physiological effects of coca (Erythroxylon coca), a native shrub of the Peruvian Andes, which is believed by the aborigines to have been brought from heaven by their patriarch and priest, King Titicaca, and then to have spread from Cusco to all the regions occupied by the Inca tribes. The use of coca leaves, which consists in chewing them with a little caustic lime, was formerly a privilege of the higher classes only, but has, later on, spread among the common people, and now the Indian, yielding to its charm, is wont to retire to the dark recesses of the virgin forest, where, unmindful of rain and storm, of night and the roar of wild beasts, he gives himself up in absolute passiveness to the enjoyment of this sensual pleasure. Under the influence of this magic herb his habitual despondency is turned into a happy mood of mind, and his dull imagination is roused to a pitch of activity that produces in him visions of extraordinary brightness never experienced before. Another effect of the same coca is the surprising endurance of bodily toil and labor that it seems to impart to its devotees. The miner, under the influence of this powerful stimulant, will work for twelve, yea, for twenty-four hours, without complaint, without fatigue, and without eating anything else than a few handfuls of roasted corn. The Indian messenger or carrier, with a load of a hundred weight on his shoulders, while chewing his coca-leaves, will travel ten leagues in eight hours over the roughest mountain paths and the almost inaccessible passes of the Andes with an elastic step and a great apparent ease. So also the soldiers of the Revolutionary war have, by the aid of coca, performed marches that were the wonder of the age.

"But extreme weakness of the organs of digestion, emaciation, green-sickness, costiveness, liver complaints, incurable sleeplessness, general dissolution and death are the consequences of the nervous stimulation consequent upon the use of this weed. Hence the question has arisen among the Spaniards again and again, whether it would not be better to prohibit the cultivation of this plant altogether, which, as the Cedula real of 1560, '63, '67 and '69 says, is but a medium of idolatry and witchcraft, seeming to give strength by the deceit of the Evil One, without possessing any real virtue, destroying the health and life of a multitude of poor Indians, without returning any benefit to the general welfare—a sentence adopted by the second church council of Lima in the year 1567."

These are earnest words, coming with the authority of experience and the solicitude for the public good. They should, therefore, engage the attention of the physician and put the unwary on his guard.

OTTO SCHNURRER.
BROOKLYN, N. Y.

WHAT IS "KASKINE?"

The Pharmaceutishe Rundschau in its last issue pays its respects to "kaskine," a preparation sold in small, flat green-glass vials, each containing about 20 grams of a white granular powder, freely soluble in water, of a sweet taste and without any odor—claimed by its manufacturers to stand "unequaled and unrivaled in the world of science as the only medicine that can destroy the germs that cause each particular disease, and restore perfect health." The Rundschau publishes extracts from the 47-page pamphlet which accompanies each vial. We publish a few specimens:

"It is admitted by the most eminent physicians that the *discovery of KASKINE is the grandest step ever taken in the march of medical science.* Kaskine entirely does away with the use of that

terribly destructive drug *quinine*, as it has far greater power, yet never produces the slightest unpleasant symptoms or the least injury, and cures permanently.

"Is it not a shame that the enlightened people of this age should be *duped by such fraud and ignorantly poison themselves with foul mixtures, which are chiefly composed of powerful physics or dangerous and misleading tonics*, many of them said to be compounded by ignorant, filthy savages.

"*Away with this shameful ignorance!* Let humanity marshal its intellect and march out of darkness under the torch of science. *Let these quack nostrums and poisonous drugs that are enfeebling our race be buried with those other relics of the dark ages*, the torturing machine and the tomahawk.

"Until the recent great scientific discovery, there was no known medicine that could reach and destroy these germs. Every known drug was tried and failed utterly. The mind of man could scarce estimate on a foe so invisible, so minute. But the power which the hound has in scenting footsteps which no human skill can detect, is the power possessed by KASKINE.

"It is a medicine of the highest potency; no words can do justice to this wonderful discovery. It marks an era in the advance of medicine and opens the door to perfect health, for *under its influence there can be no diseased conditions.* KASKINE has come indeed, like the Balm of Gilead to the suffering, with its benign power, to lift the drooping, aching energies back into robust life and enjoyment."

Alleged certificates are quoted from Prof. Alfred L. Loomis, M. D. LL.D., of the Medical Department of the University of New York, from Prof. Joseph W. Howe, M. D., of St. Francis Hospital, Prof. Montrose A. Pallen, and other distinguished physicians, all to the effect that Kaskine stands "unequaled and unrivaled." "Now," asks the Rundschau, "what is Kaskine?" We cannot do better than quote the startling words of the editor, Dr. Fr. Hoffman, whose reliability as an analytical chemist is unquestioned:

"The chemical examination by the writer, of several vials of Kaskine bought from different leading drug firms in New York City, proves the fact that *Kaskine is nothing more nor less than* GRANULAR SUGAR of the fine grain and grade, as used in homœopathic pharmacy, *without* even *any* infinitesimal *medication* or flavoring *whatsoever.*

"Twenty grams of sugar under the guise of Kaskine command the price of one dollar, and, what is more, *certificates from physicians for the efficiency of seven grains of Saccharose as a potent and reliable remedy!*"

The Rundschau adds with truth that "in the whole history of American nostrums this imposition certainly stands unrivaled. In view of such facts as possibilities, the orthodox should exercise more toleration toward those who have the courage once in a while to indulge in a spell of genuine skepticism in medicine, and in the infallibility of professors of medicine."

FIVE SAMPLES OF SCAMMONY (com.) examined by Chas M. Rebner contained, respectively, 26, 40, 78.30 and 79.23 per cent. of resin soluble in ether. The fifth sample was wholly soluble in ether, and was pure scammony resin. Starch was present in the first three of the samples.

SPONGES.

Sponges, according to Karl Fried, in Arzneistoffe des Thier und Pflanzenreiches, is the clean and dried remains of Spongia officinalis L. and other species found principally in the Mediterranean Sea and the Atlantic Ocean, those of the Eastern part being best. In the Grecian Sea and on the Syrian coast sponges are collected from May to the end of September by divers, who are weighted with a stone and plunge from the bow of their boats into the sea to a depth of 18 meters, and remain under water from 1½ to 3 minutes, by means of a rope, by which they remain in communication with the boat and by this medium signal, when they are raised to the surface. When the weather is fair a diver can bring up from 5 to 8 sponges at favorable places of moderate depth. On the Dalmatian and Istrician coasts each one dives once or twice an hour. The natives of the little island of Krapana gather sponges by means of a long pronged fork having a handle from 6 to 12 meters long.

The collected sponges are taken to the shore of the sea and kneaded and washed with the feet and hands until entirely freed from the black outer covering and other extraneous matter. After a second washing they are ready for the market; the sand, usually so plentifully found in the sponge, is incorporated while in the storehouse of the wholesale buyer to increase its weight. The major part of the sponges of commerce are from the Mediterranean, the finest kinds from the Syrian and Asiatic coasts and various islands of the Archipelago from which the islands of Kalymno and Symi deliver almost two-thirds of the year's crop. The east coast of the Adriatic Sea to Trieste and the African coast from Tunis to Morocco and the Red Sea also furnish sponge. Smyrna is the principal market for the eastern provinces, and Tripoli for the western. In Trieste, Livorno, Genoa, Venice and Marseilles the sponges are sorted according to form, size and quality. Of the finer kinds the regular, round and conical are most highly prized. The finest Levant sponges have become scarce and expensive, and are bought almost exclusively for Paris. The coarse large-holed sponges (horse-sponges) originate mostly from Cyprus and the African coast. The best qualities of Tripolitan sponges closely approach the finest Levant. Those of Sicily and the Adriatic Sea are inferior in quality. About 300,000 pounds of sponges of all sorts are obtained from the Mediterranean each year, valued at about 2,060,000 francs.

The Bahama sponge of the West Indies are darker, looser and of a coarser texture, and are packed and pressed by machines in 100-pound bales and shipped to England and America.

A PROCESS for the assay of ipecac is given by Flückiger (Pharm. Zeit., Jan. 13) as follows: Ten to fifteen grams of the finely-powdered drug is exhausted with boiling chloroform, to which a drop of ammonia-water has been added, until the drug is entirely exhausted of alkaloid. The chloroform is distilled off and the residue weighed, or dissolved in acidulated water and titrated with volumetric solution of potassium mercuric iodide, 1 c.c. of which precipitates 0.0189 gram of emetine. Prof. Flückiger has found the average yield of pure emetine not to exceed one per cent.

A REVIEW OF THE PREPARATIONS OF THE U. S. P.

The pharmaceutical preparations officinal in the U. S. P. are reviewed in Lecture XII, National Institute of Pharmacy, being a resume of the term just closed. As a birds-eye view of these preparations, which number nearly five hundred, may be of interest, we republish the following:

The pharmacopœial preparations were divided into three classes: Solutions and Mixtures, Products by Extraction, and Mixtures of Solids.

This arrangement seems to be the most simple, because it is based upon the processes involved, therefore bringing preparations made by nearly the same methods under one head, and thus facilitating their study and comparison.

Solutions were divided, according as the solvents employed were water, alcohol, etc., each embracing one or more distinct pharmacopœial classes:

		Number of preparations officinal.
Aqueous..	Pure waters	2
	Chemical waters	4
	Medicated waters	9
	Infusions	5
	Decoctions	2
	Liquors	25
	Mucilages	5
Alcoholic..	Natural Spirits	2
	Aromatic Spirits	17
	Chemical Spirits	3
Acid.....	Solutions of Oleates in oleic acid	2
Vinous...	Natural Wines	3
	Medicated Wines	11
Saccharine	Syrup (simple)	1
	Syrups, by solution	11
	Syrups, by extraction	14
	Chemical Syrups	8
	Honeys	3
Glycerites.	Semi-liquid Solutions in Glycerin	2

Mixtures comprise the liquid preparations, which, owing to their complicated composition, cannot be included in a better classification, viz.:

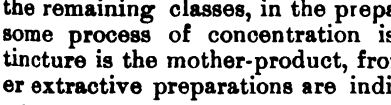
(1). Elixirs; only one is officinal.
(2). Mixtures; the officinal class, 11 preparations.
(3). Liniments; liquids for external use, 10 preparations.

Products by *extraction* comprised the largest number of preparations, and the two most important classes of pharmaceutical preparations, viz.: Tinctures and fluid extracts. These were divided, according to the solvent and the order of their strength as related to the crude drug from which they are obtained, as follows:

(1). *The vinegars* have the largest amount of crude form of solvent, as compared with the use of alcohol. The officinal class embraces four preparations, all of the uniform strength of 10 *per cent. by weight.*

(2). *Tinctures* were, of alcoholic preparations, considered first, because of being simple products of extraction, and therefore weaker in strength than the remaining classes, in the preparation of which some process of concentration is employed. A tincture is the mother-product, from which all other extractive preparations are indirectly obtained.

The following illustration shows the corresponding relation between the different preparations of nux vomica, each representing 20 parts of the drug:



The tinctures were shown to be of the following strengths:

No. of Prep. Officinal.		Per Cent. of Drug.	No. of Prep. Officinal.		Per Cent of Drug.
2	Containing	5	22	Containing	20
1	"	8	1	"	40
20	"	10	1	"	50
10	"	15	16	Compound tinctures.	

3. *Fluid Extracts* were divided in six different classes, according to the especial process employed in their preparation, as follows:

Process A, embracing by far the largest number, viz.: 71, of the officinal fluid extracts.

It consists simply in exhausting the drug by percolation reserving the most concentrated portion of the percolate and then by evaporation concentrate the weak percolate adding it to the reserve, either first dissolved in a portion of the menstruum or with an addition sufficient to bring the product to the proper measure. This is the process upon which the others are based and modified, according as the drug may be difficult to exhaust, or so as to obtain a product pharmaceutically better.

Process B, addition of acid to prevent change of the active constituents; only two are officinal.

Process C, addition of acid in the extraction of aconite; alkali in that of glycyrrhiza, these two being officinal.

Process D, to prevent precipitation or gelatinization—by the addition of an alkali in the extraction of senega, the only one officinal.

Process E, the rejection of inert matter in fluid extract of ipecac, so that it may mix clear with syrup, and in that of lactucarium.

Process F, exhaustion by infusion, concentration, by evaporation and precipitation of inert constituents by the addition of alcohol. Only two fluid extracts, prepared by this process, are officinal.

4. *Abstracts.*—By the evaporation of a fluid extract to a semi-liquid, and addition of milk sugar in such quantity that the weight of the mixture, when dried and powdered, equals one-half the amount of the crude drug employed, we obtain an abstract.

To facilitate evaporation, however, the solvent employed is usually different from the menstrua used for the preparation of fluid extracts from the same drugs; these also sometimes contain glycerin, hence in the preparation of the abstracts the official directions must be followed throughout, instead of starting with the fluid extract.

The abstracts represent uniformly twice the strength of the crude drug, the dose being therefore one-half that of the drug or the fluid extract. They are also more uniform than the extracts, because, not sharing the variation in regard to yield, and more definite than the powdered extracts, which they are intended to replace. There are 11 abstracts officinal, those of jalap and valerian replacing the extracts of these drugs formerly officinal.

5. *Extracts.*—By continuing the evaporation of the extractive matter until a soft solid of pilular consistence remains, an extract is obtained.

The percentage quantity compared with the crude drug indicates *the strength* of the extract, and hence its dose. This yield is largely influenced by the character of the solvent used in the extraction, hence the necessity for the employment of official menstrua in the preparation of the extracts. Of this class 31 are officinal, one being a compound and in the powdered form.

6. *Resins.*—By pouring the concentrated alcoholic tincture of a resinous drug into cold water, the resin precipitates and, when carefully dried, constitutes a resin.

It is really a pharmaceutical resin in distinction to a natural resin. If the active or medicinally valuable constituents of the drug are entirely *resinous*, the preparation represents the drug in a very convenient and concentrated form. Of the vast number of drugs, however, only three are officinal in this form.

7. *Oleoresins.*—Preparations obtained by extraction of drugs, withether and evaporation of the solvents, constituting a class termed oleoresins, of which six are officinal.

These are semi-liquid and contain chiefly the constituents soluble in ether, viz.: Fixed and volatile oils and resin.

Mixtures of *solids*, owing to their compound character, were divided into those for *internal* use, and those for *external* medication.

While this arrangement is not a scientific one it is nevertheless very appropriate, because the *use* of the remedies governs the *form* of the different preparations, and these are thus brought together in their respective classes for study and comparison.

Those for *internal use* were arranged upon the progessive plan, commencing with the most simple form, as follows:

		Number of preparations officinal.
Powders:	Simple powders, opii pulvis	1
	Compound powders	9
	Triturations	1
Masses:	By the incorporation of adhesive semi liquid substances so as to obtain a plastic consistence	3
Confections:	Masses in which the excipient is sugar in large proportion	2
Troches:	Confections, flavored, made in various forms and dried	15
Pills:	Masses divided into spherical form not exceeding five grains	14

Preparations for *External Medication* are all more or less oleaginous, and the vehicle employed governs their consistence; they were grouped accordingly, those most *unctuous* coming first, and then in sequence until the last class. The preparations of this last class are brittle at ordinary temperature, but when used are rendered adhesive by the warmth of the body. The following are officinal:

		Number of preparations officinal.
Ointments:	By simple admixture	18
	By fusion	5
	By chemical reaction	2
Cerates:	By admixture or fusion	6
	By maceration and fusion	2
Suppositories:	Cerates formed into cones weighing 15 grains, the vehicle being cacao oil; none officinal.	
Plasters:	Simple plasters	5
	Compound	12

Of compound plasters, lead plaster is the vehicle in seven; resin plaster in the remaining five.

ACCORDING to L. Raby, a pharmacist in the French army, certain medicaments prescribed for external treatment form explosive mixtures. In treating with a five per cent. solution of carbolic acid, cauterizing with nitrate of silver, and finally dusting over the wounds with iodoform powder, the latter substance melted, gave out a gas and became thoroughly decomposed. When the different ingredients were mixed together by means of a little water there was explosion, accompanied by evolution of nitrous vapors. It was found that iodoform and nitrate of silver readily decomposed when mixed, and that if carbolic acid is added to the mixture, the decomposition is much more energetic.

PIGMENTS CLASSIFIED.

The following tables, taken from an exchange, give some of the more common pigments, arranged in groups according to their more or less poisonous properties:

FIRST GROUP.

PIGMENTS DANGEROUS TO HEALTH.

Orpiment (arsenic sulphide).	Naples yellow (lead antimoniate).
Realgar.	Lead oxychloride.
Mercury biniodide.	Lead sulphate.
Turbith mineral.	Cobalt arseniate.
Lead arsenite.	Verdigris (copper acetate)
White lead (and flake white).	Scheele's green (copper arseniate).
Missicot.	Prussian blue.
Litharge.	Prussian green.
Minium.	

SECOND GROUP.

PIGMENTS LESS DANGEROUS TO HEALTH.

Lead chromate.	Zinc oxide.
Vermillion.	Zinc chromate.
Tin sulphide.	Barium chromate.
Mineral lake (tin chromate).	Antimony oxychloride.
Copper chromate.	Cadmium sulphide.
Purple red.	Smalt.
Thenard's blue.	Ultramarine.

THIRD GROUP.

NON-POISONOUS PIGMENTS.

Carbonate of lime.	Burnt umber.
Barium sulphate.	Raw sienna.
Yellow and red ocher.	Burnt sienna.
Venetian red.	Cologne or Cassel earth.
Mars red.	Sepia.
Cochineal or carmine.	Ivory and lamp blacks.
Manganese brown.	Indian ink.
Vandyke brown.	Colcothar.
Raw umber.	Indigo.
	Terre verte.

THE CULTIVTAION OF COCA.

Henry M. Rusby, M. D., of Detroit, who has been sojourning for several months in the districts of Bolivia engaged in the study of the coca plant and its products, contributes an elaborate essay on the "cultivation of coca" in the Therapeutic Gazette. With reference to its successful transplantation in other countries he says:

"As regards the exportation of the culture of coca, the experiment has been tried, I believe, but once. Several years since, Mr. F. L. Steinart, of La Paz, shipped a small quantity of seed via London to Ceylon, and during the past season the first products were shipped to London and sold at a high price. Seeds for export should be exposed for several days to a hot sun, so as to rapidly dry the fleshy exterior, which thus forms a protection to the germ within.

"It is my opinion that the coca-plant is adapted for culture in many countries where it is now unknown. Among the countries where it would be well to experiment with it are Guatemala, Mexico, the East and West Indies, India, Southern China,

portions of Africa, and possibly of Italy. It is doubtful if it would grow in any portion of the United States. Requiring an average temperature of at least 70°, the only districts at all suited would be Florida and Southern Texas; and it is highly probable that proximity to the sea-coast at so low an altitude would prove fatal. Nor would irrigation prove adequate in those countries possessing a long, dry season. The plants must not only have an abundant supply of water at the roots, but they must be bathed in a humid atmosphere for the greater portion of the year. But from what I have read of some of the countries above named, I am confident that the plant would there find a congenial home. Jamaica offers especially hopeful conditions."

RECENT INVENTIONS.

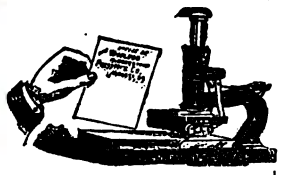
We take the following from the American Inventor, of Cincinnati, the best journal, to our knowledge, published in the interests of inventors:

IMPROVEMENT IN SWINGING SHIPPING CANS.

A valuable improvement in swinging shipping cans is owned by Messrs. Weinedel & Mueller, of Louisville, Ky. It is designed for oil and other fluids, which are arranged in a frame or casing and adapted to be tilted or swung in it from an upright to an inclined position to facilitate the outlet of fluid from them.

In this device a combined casing and stand

Swinging Shipping Cans.



Self-Inking Press.

remains stationary at all times and in all operations of the can, and the can is jacketed at the top and bottom and front and rear, and is pivoted to swing in the casing upon pins or lugs fixed in the casing.

The construction is such that the adjustment of the can into and out of bearings for it in pouring and packing are avoided, and the top and bottom being beveled so as to permit the can to freely turn within the casing and stand, a large economy of space is effected in the consequent reduction in size of the article.

A large number of druggists and shippers of Louisville and other cities where the improvement has been examined speak favorably of its utility, practicability and simplicity, and place it in the front rank among articles of this class.

SELF-INKING RUBBER STAMP PRESS.

The engraving is the perspective view of a new press, the invention of Wesley N. Wheless, of Augusta, Ga., which, it is claimed, is the only absolutely perfect self-inking rubber stamp printing machine ever offered. The workmanship and general construction are unsurpassed.

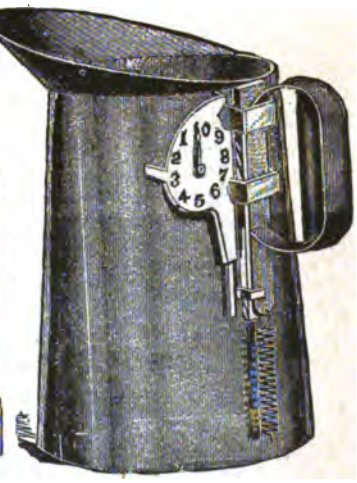
The operation of the press is instantaneous; a mere depression of the plunger cap inks the die and makes the impression, the roller passing twice over the die each time, and always insures plenty of ink. A sheet of paper is never lost, for should the operator thoughtlessly fail to press sufficiently hard on the die, he can again bring the die down in exactly the same spot. The machine is simplicity itself, and can easily be operated by a lad twelve years of age.

With this any busines man can do his own printing on a press that costs him only $12, and prints letter, note and statement heads, business and postal cards, envelopes, tags, etc.

DEVICE FOR CLOSING AIR TIGHT VESSELS.

A very convenient device, designed more particularly to be applied to a barrel, enabling it to be closed air tight, has been patented by Andrew Evans, of Indianapolis, Ind. The device is intended to be used in removing the contents of vaults, etc., and in such a manner as not to be at all noticeable or offensive to persons along the route. The engraving shows an ordinary substantial barrel. From opposite points at the top are bolted strong metallic ears with upward projections, which pass through the ends of a strong metallic cross bar at the top and are secured by nuts. The cross bar is cast in a flanged form, and has a central curved hand hold for convenience in moving the barrel. A cover is provided with an annular recess which fits in the opening, and one face of the recess lies on top of the barrel or on the packing ring, interposed between to make it absolutely air tight. This cover is forced tightly down by means of set screws passing through the cross bar.

Device for Closing Air Tight Vessels.



Tallying Attachment for Measures.

TALLYING ATTACHMENT FOR MEASURES.

The object of an improvement patented by J. A. McIntosh, of Warren, Pa., is to provide for vessels employed to measure liquids and other commodities, a tallying attachment for recording the number of times the measure is emptied. It comprises a sliding handle by which the measure may be lifted, and an index moving in front of a dial and carried by pawl and ratchet mechanism operated by the sliding handle.

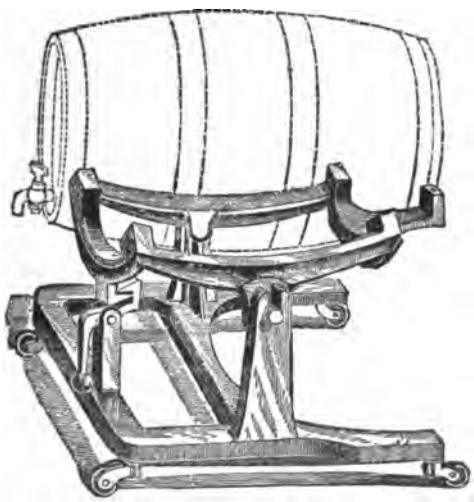
The measure is of the well-known usual form,

and in guides at the back of the measure is placed a bar capable of sliding and carrying a handle of sufficient width between its points of attachment to admit the sliding of the bar through a sufficient distance to operate the tallying mechanism. A spiral spring is connected with the lower end of the bar and is attached to the measure near the bottom. Attached to the guides is a dial, in the center of which is journaled an arbor, having upon the outer end an index and upon the inner end a ratchet wheel. The graduations on the dial correspond in number with the teeth on the ratchet wheel. A spring pawl, connected by an arm with the lower end of the sliding bar, passes up through a guide and engages the ratchet wheel. A spring detent, attached to the back of the dial, engages the ratchet wheel and prevents it from retrograde motion. The dial is inclined forward from the plane of the bar, and is braced by an arm projecting rearwardly from the dial, and attached to the side of the measure.

When the measure is filled, the user grasps the handle and first raises it to the full limit of its upward movement, thereby turning the ratchet wheel through the engagement of the spring pawl connected with the bar. This moves the index forward one space of the dial and indicates one filling of the measure. When the measure is emptied and set down, the retraction of the spiral spring returns the bar and handle and spring pawl to their original position, while the spring detent prevents the ratchet wheel from turning backward.

BARREL SUSTAINING APPARATUS.

The Automatic Measure Co., of Worcester, Mass., are the proprietors of an excellent improvement by which a barrel may be readily raised from the floor and sustained for use. This improved support will enable kerosene, syrup and other barrels to be easily mounted and handled in stores, and is neat in appearance and very durable.



Barrel Sustaining Apparatus.

The standards of the apparatus, which are bolted to the platform, have at their upper ends suitable journals, on which is mounted a concaved barrel supporting frame, having a projection at its front end, which, when the frame is tipped into position to receive a barrel, comes next the floor and receives upon it the chine of the barrel, and thereafter the barrel is tipped over into the frame and the latter turned on the journals, so that the barrel is balanced for use or to be moved. If the barrel is to be moved about, the platform is provided with casters. The standard has a latch pivoted upon it, which engages one end of the frame and forms a locking device for it. The frame has four projections arranged in the arc of a circle, forming rests for the barrel. The frame is pivoted to the standards at points to that side of its longitudinal center which is away from the latch engaged end, so that when in horizontal position the preponderance of the weight of the frame and its load is at that end, to assist in keeping it in position. The dog projects out from the frame, and is shaped to enter between the casters or reach down for the barrel, so that the barrel need only be tipped, and not lifted, to get it upon the frame.

WHITING.—Mr. J. W. England, in the Am. Journ. of Pharmacy (Feb.), describes the methods for manufacturing whiting practiced in this country. Whiting is prepared by elutriation, the various qualities being mainly governed by color, fineness and freedom from silica or grit. Analyses of various grades gave the following percentages of silica: Crude chalk (sp. gr. 2.6), 4 per cent.; commercial (sp. gr. 2.5), 3.5 per cent.; gilded (sp. gr. 2.3), 3 per cent.; American Paris white (sp. gr. 2.32), 2 per cent.; cliffstone, 4.5 per cent.; Paris white, 4 per cent.; creta præparata, U. S. P. (sp. gr. 2.5), 4 per cent.; calcii carb. præcip., U. S. P. (sp. gr. 2.25), none. American Paris white appears to be a purer form of calcium carbonate than any other, surpassing even the official prepared chalk, and is therefore recommended to be used for making the medicinal product.

MERCURIAL SOAPS are prepared by Dr. Schuster, of Aix-la-Chapelle, which have material advantages over the mercurial ointments. The formulas (Deutsche Medizinal Zeitung) are as follows:

200 parts of lard are saponified with 100 parts of liq. potassa (caustic), and mixed with 50 parts of water. 200 grm. of mercury are then rubbed up in the most careful manner with 100 grm. of lard, with the addition of some chloroform, which favors the fine distribution of the metal. We then add from the above soap 300 grm. very gradually, so that the preparation receives the consistency of unguentum hydrarg., and under the magnifying glass shows no globules of mercury.

Another soap is prepared by taking 1 part each of mercury, lard, and potash-soap, and adding at a moderate heat liq. pot. q. s. until complete saponification results.

THE Therapeutic Gazette expresses its appreciation of drugs by an anecdote concerning the late Dr. George B. Wood. This eminent therapeutist was accustomed to say that when any physician came to him and professed lack of faith in the efficacy of medicines, he always replied that this lack of faith must rest upon the physician not having used drugs properly, because the results to be achieved by the proper use of remedial measures are so apparent that they can be seen at once.

Editorial.

The article of Mr. Schnurrer in our February issue on the "Rise and Spread of the Metric System in Europe" presents an original phase of the subject in a remarkably forcible and vivid manner. It illustrates most strikingly that the sentiment against the system in this country is not merely one of languid dislike, but a passion in which the voice of practical science is mingled with the echoes of political conquest. Mr. Schnurrer does not maintain, as some of his critics aver, that because the metric system is the "ill-begotten child of the French revolution" that therefore it should be derided and ostracised. He simply directs attention to the fact that the adoption of the metric system by France was a part and parcel of the universal decimal scheme born of partisan rebellion against all established customs and traditions, and that it was not the vaunted offspring of scientific necessity. The advantages or disadvantages of the system the author does not pretend to discusss, his evident purpose being simply to expose the trickery by which it is hoped to glorify and strengthen the metric idea through deifying its origin. Mr. Schnurrer's objections to the system per se are pithily expressed in an incidental way in his closing paragraph where he says, referring to the quite uniform system of weights and measures now in use in this country with which learned and unlearned are familiar, that as "possession is nine points in law," so is "familiarity nine points in science, and ten in practice."

The theoretical merits of the metric system were not in controversy: they may be evident and overwhelming from the standpoint of refined precision; but it must be remembered that a people's weights and measures are a part of their language, their patriotism, and their individuality. The language of Grecian or of Roman civilization may excel in accuracy of expression that of England and America; we may study and praise it but adopt it as our own, never. Enthusiasts here and there might perhaps do so and insist for a time upon employing it in their business, in their conversation and correspondence, but how long before their very isolation would convince them of their folly? It is this consideration which must for many years, if not always, bar out the metric system. Its success must be in its superior convenience and accuracy, but this is impossible until it has become familiar and desirable through practical and general use, and this in turn is impracticable until convenience shall demand its use. To insist upon the general adoption of the system under these conditions is very much like advising a boy to learn to swim by sprawling in the sand. "Learn to use the metric system," pharmacists are told, "but it is safe to use it only when all others concerned are familiar with it." Pharmacists do not recognize in it a necessity, and physicians, with a few exceptions, distrust and avoid it for good reasons, apparently satisfied that their drams and ounces are sufficiently accurate for all practical purposes, and above all have the merit of being convenient and universally intelligible. Instead of importing a serious new complication why not perfect what we have? Half the labor and eloquence expended in behalf of the French system would have done much to produce uniformity in and otherwise perfect our native weights and measures. Here is a field worthy the efforts of the reformer.

It is stated that Prince Bismarck the other day received a communication from medical men and pharmacists, who advocate the following measures: (1). To limit the retailing of medical specialties and patent medicines to licensed pharmacists. (2). To submit all such preparations to a compulsory examination and analysis by a commission appointed by Government, with power to fix the retail price, and to decide whether or no the preparation may be sold without a doctor's prescription. (3). All patent medicines imported from abroad to be subjected to a high customs duty, to a tax ad valorem, and to the examination by the commission above referred to.

The first two propositions are equally applicable to the situation in this country. No responsibility attaches at present to the sale of nostrums, and hence, no professional skill being legally required, discrimination as to venders would be both impracticable and unjust. The public certainly need protection against fraudulent and dangerous patent medicines. Require that every patent medicine shall be subjected to regulation and analysis by the State; that, if found to be free from poisonous constituents and honest in its claims, it shall be so registered and may be sold by competent dispensers (registered pharmacists) only, subject to the responsibilities which govern the sale of other medicines. A congressional enactment of this kind would be especially desirable, but, if this be impracticable, State laws would be a happy alternative.

The unrestricted traffic in patent medicines is a disgrace to our civilization; communities and States are up in arms against alcohol as a beverage in all its forms except the one most detestable and villainous. Introduce some vile ingredient into the alcohol, christen and label it as a patent medicine, and lo! it is robed in innocence and welcomed to the homes of the righteous. A poison can be legally sold as such in most States only with a flaring label of warning and after double or triple forms of registration by a competent pharmacist. Put it up as a patent medicine, decorate it with a seductive title and a rainbow wrapper, and at once it is beyond the restraints of regulation and may be sold by street hawkers, slaughter shops, anybody and everybody, without let or hindrance. Where is the consistency, the intelligence, the justice, in this strange partiality for the nostrum curse?

A correspondent of the Scientific American inquires "for a pure fruit acid as a substitute for tartaric acid, at about one-third the cost, to use in the manufacture of jellies." The inquirer is evidently one of the many, who, combining ignorance with cupidity, desire to engage in the nefarious business of making spurious and adulterated foods and who thrive because their goods are the cheapest in the market. They are undoubtedly numerous, perfectly unscrupulous, and their sphere of action should be regulated by legal enactments. They should be exposed by all having the public good at heart and their products boycotted. Only the grossest ignorance will account for a desire to obtain a fruit acid and *pure at that*, for one-third the price of the very cheapest fruit acid which is obtainable.

In direct contradiction, however, to this self-evident fact, the journal mentioned refers to the *acid sulphate* of *lime* as being used for that purpose, and recommends "an excellent quality of this compound."

To another "weak but willing" deceiver, who desires a

baking powder which will give pan cakes, etc., the appearance of being made with eggs—the alleged scientific journal recommends the addition "of about ½ drachm of turmeric to each pound of baking powder"—by which it adds, "it is converted into egg powder."

The dense ignorance of these inquiring minds sinks into utter insignificance compared with the misrepresentation and the deception of the advice.

The Illinois Board of Pharmacy has caused quite a stir by refusing recognition of certain diplomas of the Chicago College of Pharmacy, and ruling against the diplomas of several other schools. As we have no definite information as to the grounds upon which the Board bases its action, we are obliged to defer comment for the present. The situation emphasizes the proposition that pharmacy laws should recognize no diplomas whatsoever, but provide a single uniform test for determining the qualifications of the men, which would clearly be the surest means of enforcing proper qualifications by the colleges.

It has been asserted that this would be an "insult to graduates." In what manner? Because it assumes that all graduates may not be competent to conduct a pharmacy? The test would be obviously intended for the incompetent, and to them only would it be an "insult." A graduate conscious of his ability to pass would as surely take pride in demonstrating that he had not frittered away his time at college, that he did not owe his graduation chiefly to somebody's courtesy or indulgence, but that his diploma represented something, and not, as in the case of his shiftless class-mate, to merely the semblance, the assumption or the undeserved certificate of something. Truly to the college ignoramus a test of any kind in or out of school is an "insult."

But then, we are told, appearing before the Board is expensive and inconvenient, and the Board may ask questions which no man, however well-qualified, could be expected to answer "off-hand." If, for argument's sake, we concede this, the question arises, is it not quite as "expensive and inconvenient" to the poor fellow who has never "been to college," and, who, assuming that a diploma necessarily represents even a fraction of the advantages claimed for it, must stand quite appalled before questions which fill the soul of even the mighty graduate with fear.

Again, we are told, colleges must be encouraged. Let this statement be qualified by saying that *good* colleges must be encouraged, not colleges established or conducted primarily to rush men into practice over the heads of Boards of Pharmacy, thus practically bidding the law and the State defiance. Let the State require qualifications to be ascertained by its constituted Examining Board, not what purports to be qualifications certified to by a legally and perhaps professionally irresponsible directory of a corporation for "pecuniary profit."

American colleges, as a rule, bear an irreproachable reputation for conscientious instruction and integrity of purpose. They are entitled to the highest praise for their noble work in the past and to sympathy and support in the grander achievements to which they are devoting their energies. Here is an important reason for insisting upon a uniform test of registration. Offer no premium for cheap graduation; foster no competition in study-saving methods and rapidity of superficial motion. Let every college know that its graduates must account to another and independent authority before registration is permitted; that the test will require definite qualifications, and at once a stimulus is created for the most thorough collegiate work. To maintain the character of our colleges, protect them from unwholesome competition from within and destroy the incentive for the creation of cheap schools to plague them from without. Give our schools of pharmacy every opportunity for improvement; let not pharmacy follow in the footsteps which have brought so much odium upon our schools of medicine.

THE Committee on Fire Insurance of the National Wholesale Druggists' Association has reported, through Mr. Daniel C. Robbins, of New York, in favor of a plan of "inter-insurance," a form of mutual insurance originated by a number of New York firms, according to which each firm took a risk of $2,000 on each of the other firms' stocks. They did not form a corporation, or chartered society, or joint stock company, but the several houses issued power of attorney to an agent, authorizing him to execute and deliver policies of $2,000 to each member, thus giving each member $6,000 insurance. The organization now embraces about twenty firms, which represents an insurance to each member of $88,000. Each member has assumed a liability of $20,000, which includes the deposit of $2,000 in cash, with a further obligation of $18,000 in case of a widely-extended conflagration. Up to the present time not a single fire has occurred, and the original deposit of $80,000, with added premiums, has accumulated.

To adapt this plan to the wholesale drug trade, it is proposed to form two separate combinations, to embrace fifty firms each: First, a combination of fifty firms wanting $50,000 insurance each; second, fifty other firms wanting $25,000 each—the first deposit or premium being $1,000 for the first and $500 for the second, with the further liability, limited to $2,000 and $1,000 each, to be paid in case of a widely-extended fire in a single city or a contemporaneous conflagration in different cities. The proposed plan involves an account with each member whereby he may be debited with cash balance on all risks above the usual average of premiums paid at the present time, which is believed to be fully two per cent., and crediting in account all parties whose risks are taken below two per cent. The outcome of this proposition will be watched by retail druggists with considerable interest. If adapted to insurance for wholesale druggists, it must, with possible modifications, be equally adapted to the demands of retail druggists.

We beg to differ from Professor Bedford in his statement that "the original draft of a form of law proposed to the American Pharmaceutical Association in 1869 is the ideal" toward which pharmacy laws should tend. A careful study of this draft, which unfortunately has already served as a "model" for too many pharmacy acts, reveals defects of the most serious kind. This draft has sown the seeds of inefficiency in much legislation during the past ten years, and should be consigned to oblivion as soon as possible. We fear, however, that the draft will be a constant and dangerous menace to good pharmacy bills until the A. P. A. shall itself utterly condemn it. Why is it that out of the twenty-odd State Pharmacy laws in this country, hardly ten of them have more than a dead-letter existence? It is mainly because the majority have presumed upon the excellence of the A. P. A. "model" and have too faithfully copied its deformities and infirmities. We sincerely trust this idolatry of a worn-out phantom will give way to a closer study of living laws, such as that of Michigan, with a view to the adoption of their virtues, the rejection of their defects, and the incorporation of such new features as actual experience may suggest.

Progress of Pharmacy.

FRAXINUS AMERICANA, investigated in the laboratory of the Philadelphia College of Pharmacy (Am. Journ. Pharm. February, 1886) by Joseph C. Roberts, was found to contain tannin, resin, sugar, starch, a little volatile oil, and a very small quantity of alkaloid, which could not be obtained crystallized, owing to coloring matter present.

THE ALKALINE POWER OF ATROPINE has been discovered by Flückiger (Pharm. Journ., No. 812, page 601) to exceed that of probably all other alkaloids, and to equal that of the hydrates of potassium and sodium. This alkaloid is distinguished from all other alkaloids as far as known, except hyoscyamine and homatropine, by imparting a red coloration to phenol phtalein paper.

TERPIN ($C_{10}H_{20}O_2+H_2O$), also called "turpentine camphor," is produced from oil of turpentine, which has not been exposed to the air and light, by the action of nitric acid. Its crystals belong to the monoclinic system. Its preparation, according to Fourine (Ph. Post), is as follows: Rectified oil turpentine, 4 pints; alcohol (80 per cent.), 3 pints; nitric acid, 1 pint. These are left in contact for several days, the resulting crystals dried between folds of bibulous paper and recrystallized in the cold from an alcoholic solution made slightly alkaline to remove any adhering nitric acid. The product equals 12 per cent. of the turpentine used. It has been used as an expectorant in doses of 3 to 5 grains.

SOLUTION OF AMMONIO CITRATE OF BISMUTH is recommended to be prepared by Macewan (Pharm. Journ., No. 811, page 606) according to the process of Mehu as follows: Bismuth subnitrate 660 grams is heated with acid nitric 924 grams, until dissolved; to the syrupi solution add citric acid 540 grams, previously dissolved in one ounce of water by heat; to one-half of this solution add ammonia water until the precipitate at first formed is redissolved; dilute with water 1 pint; add the remaining half of the bismuth solution with constant stirring, collect the precipitate, wash it until free from acid, add amonia water sufficient to dissolve it, and dilute with water to make one pint. The process is a modification of Mehu's, and is said to give far better results than Rother's process officinal in the U. S. P. for the preparation of bismuth citrate.

THE PENICILLIUM FERMENT IN EXTRACTS have been investigated by M. Cocardas (Bull. de Soc. Bot. France), who concludes that the growth of the ferment produces changes in the extract compared with those caused by the effect of heat. These are chiefly the absorption of oxygen and liberation of carbonic dioxide with the formation of water, the extract being correspondingly reduced in strength.

"YERBA DEL INDIO," the root of Aristolochia fœtida, a plant recommended in the Mexican Pharmacopœia as a remedy in colic, has been the subject of an analysis by Henry Trimble and Sam. Jones (Am. Journ. Phar., March, 1886) with the following percentage results: Fixed oil 1.95 per cent.; resin, .50; tannin and coloring matter, soluble in absolute alcohol, 7.64; mucilage, tannin and coloring matter soluble in water, 10.24; albuminoids, 1.90; and matter soluble in dilute hcl. 4.11 per cent. It contained 4.10 per cent. of moisture; 52.68 per cent. lignin; and left 4.88 per cent. of ash. The evidence points to the belief that a volatile alkaloid is present. In another paper Prof. Maisch refers to the examination of raiz del indico by Voelcker (the results of which were published in the Am. Journ. Pharm., 1876, page 49), and is inclined to believe that the two samples of roots are identical with a Texan plant known as canaigue, growing in the neighborhood of the Rio Grande.

AS A TEST FOR STRYCHNINE, Fluckiger (Phar. Zeitung, page 10, 1886; Am. Journ. Phar., Feb. 1886) recommends: To 1 cgm. potassium chromate dissolved in 5 C. c. of water is added 15 grains of sulphuric acid (1.84). A few drops of this solution sprinkled upon the suspected solid on a porcelain plate will show the blue coloration if strychnine is present. Strychnine is detected when in solution by the appearance of a distinct blue zone when dropped into the reagent, but the presence of several substances prevents the formation of the blue color. Equal parts of strychnine and brucine only show the brucine reaction (red) when treated with the reagent, and the test is only applicable in mixtures containing several times more of strychnine than brucine.

COCAINE ($C_{17}H_{21}NO_4$), although used mostly in solution as hydrochlorate, is also prepared in the following combinations: Citrate, hydrobromate, salicylate, tartrate, and oleate for external application. The pure alkaloid crystallizes in colorless, transparent prisms belonging to the monoclinic system, easily soluble in alcohol and ether, but requiring 740 parts of water at 12° C. for solution. Its salts, however, are readily soluble in water. By the action of hydrochloric or diluted sulphuric acid cocaine is split up into benzoic acid, methyl, alcohol, and a new alkaloid ecgonin. When heated upon platinum foil little or no residue should be left, and should not be colored by the addition of concentrated sulphuric acid, this being quite characteristic of a good quality of cocaine, which has now also been prepared synthetically from benzoylecgonin. In connection with its late extensive medicinal application, it has been observed that in applying cocaine to the eye its dilating effect on the pupil can be counteracted by the addition of pilocarpine, 10 drops of a 5 per cent. solution of which to 1 dram of a 4 per cent. solution of cocaine is sufficient.

COTOINE ($C_{22}H_{18}O_6$) and paracotoine ($C_{19}H_{12}O_6$) made from the true and paracoto barks respectively are considerably different in chemical composition, appearance, solubility and reactions. True cotoine crystallizes in white, fusable prisms, slightly soluble in cold water, but soluble in alkaline solutions, alcohol and chloroform, having no power to prevent fermentative action, and, not being astringent, its power in checking diarrhœa has been referred to its influence in dilating the blood-vessels of the intestines, and thereby increasing absorption in the intestines in the alkaline liquids of which it is soluble. In this connection it might be added that true coto bark is fast disappearing from the market, that offered being usually Para bark, which cannot be easily distinguished by external appearances. The per cent. of cotoine as obtained from them is about the only criterion, though the two barks furnish essentially different preparations.

Queries and Formulæ.

WE cordially invite queries for this department on any subject of pharmaceutical interest Correspondents will give their name and address, but initials only will be printed when desired. It is especially requested that they furnish such information as they may already possess on the subject embraced in their queries. Queries cannot be answered by letter. Communications for this department should be addressed to Editor of the WESTERN DRUGGIST, 69 Dearborn Street, Chicago.

50. TINCTURE ANTACREDA.

W. B. (Chicago) desires the formula for "tincture antacreda." The following is said to be authentic:

Take of

Guaiac resin	ounce	1
Canada balsam	"	1
Oil sassafras	"	¼
Mercury bichloride	grains	20
Alcohol	fl. ounces	8

Mix according to art.

It will be observed that this is a very powerful remedy and must be dispensed with care.

51. COMPOUND FLUID EXTRACT OF CIMICIFUGA.

N. D. (La Crosse, Wis.): The following formula is taken from "Drugs and Medicines of North America":

Take of

Fluid extract of	cimicifuga	ounce	1
" "	wild cherry	"	1
" "	ipecac	"	¼
" "	liquorice	"	¼
" "	senega	"	½

Mix,

or it may be prepared from the crude drugs according to the officinal process for fluid extracts, using diluted alcohol as a menstruum.

52. SYZYGIUM JAMBOLANUM.

R. E. R. (Chicago, Ill.): The substance under the above euphonious name has been observed in the list of prescriptions published last month from the Illinois Pharmaceutical Association. It is the seed of Eugenia jambolana *Lam.*, a tree very common in Bombay, East Indies. It yields an abundant crop of subacid edible fruits sold in the Indian markets, about the size and shape of an olive. It is of a purple color and very astringent; within is a thin paper shell, which incloses a large green kernel, also very astringent. This is the part of the plant used for medicine, and highly recommended recently in this country for diabetes. No analyses have yet been made, but all portions of the plant are exceedingly astringent. Tannic acid is probably the chief constituent.

53. WHITE PINUS CANADENSIS.

A. Van S. (Grand Rapids, Mich.), having received a prescription reading as follows, desires to be informed what should be dispensed:

℞ White Pinus Canadensis ..... ℥i

One teaspoonful in two-thirds of a cupful of water, to be used as injection morning and evening.

This is not, as presumed by our correspondent, Canada pitch, balsam fir or any similar drug, but ostensibly an extract prepared from Pinus Canadensis. In order, however, to distinguish a colorless preparation of this from the dark-colored extract, it has been termed "white." But this last-mentioned article is a preparation of Pinus Canadensis probably only in name, for we find that it is a strong solution of alum and zinc sulphate, containing none of the tannic acid constituents of the drug referred to, upon which its medicinal value would have to depend. That any reputable firm should be engaged in its manufacture and sale is rather surprising.

54. SOLIDAGO LANCEOLATA.

S. Willson (Mantorville, Minn.) sends a specimen of an indigenous plant for identification, with a request for information concerning the menstruum used for extraction. The specimen received was so broken up as to prevent a complete analysis, but upon careful examination it proved to be a Solidago, and very likely Solidago lanceolata Linnè. It contains some volatile oil, which is probably its chief medicinal constituent, and the drug would have some slight value as a carminative and stimulant. The dose would be from one-half to a drachm, administered preferably as infusion. The menstruum indicated would be, for a tincture, diluted alcohol, and for a more concentrated preparation, such as a fluid extract, about 70 per cent. The alcoholic strengths of the menstrua are, as a rule, governed by the degree of concentration of the preparation.

55. A FRENCH PRESCRIPTION.

J. L. (Chicago) received the following prescription from a well-known physician:

℞ Delpech ..... ℥vi
Sig. Dr. .....

It was legibly written, so that no question could arise as to its correct reading. After consulting all handbooks both domestic and foreign, in vain, the centrally-located druggist upon whose blank the prescription was written was applied to for information, which was denied upon the ground that the formula was private property. The physician was then interviewed, and frankly admitted that it was not the intention that the prescription should be dispensed anywhere but at the centrally located drugstore in question. So many pharmacists were not sufficiently competent to dispense his prescriptions that he preferred not to run any risk, by sending all his patients to one store. In order to prevent these incompetents from dispensing his prescriptions through chance, he ordered special preparations, which, through their "incompetency," they were unable to understand. The one in question was officinal in the Codex, and if satisfied of the pharmacist's competency, he would not hesitate to give formula, which was as follows:

℞ Copaibæ.
Syrup limonis.
Aquæ aurant.
" menthæ pip. *a. a.* ..... ℥i
Acid sulphuric dil ..... ℥i
Pulv. tragacanth ..... q. s.
Ft. emulsio.

This is a clear case. The preparation is as unknown to the Codex as the "code" is unknown to the doctor.

56. PEPTONE.

A. S. (Oxford, Ia): Peptone is the ultimate product of pepsin—that is, the substance resulting from the action of pepsin upon albumen or fibrin. As is well known, pepsin in acidulated solution and at the temperature of the body, acts dissolving upon insoluble substances such as coagu

lated egg-white, meat-fiber, etc. This is essentially the process which all foods belonging to this class must undergo in the human economy before they can be assimilated or absorbed by the blood. Food not belonging to this class, as starches and sugar, are similarly converted into dextrin and glucose by the ferment ptyalin, and fats by the pancreatic juice are rendered in a condition for easy assimilation. Pharmaceutically considered, peptone is either beef peptone or egg peptone, although recently peptone mixtures of the metals have been used. Many of the so-called beef extracts in the market contain more or less peptone. A beef peptone is prepared by taking one drachm of pepsin, dissolving it in acidulated water, and macerating in the solution, at a temperature of about 98° Fahr., one pound of finely-chopped and lean beef for about five to six hours. The mixture should then be heated to the boiling point and strained. If a good, active preparation of pepsin was used, the debris remaining from the beef will be nothing but sinews. If the peptone is to be kept on hand, it is best to evaporate the liquid to a syrupy consistence, and to add some glycerin.

57. TEREBENE.

J. R. P. (Cedar Rapids, Ia.): Terebene is a derivative of oil of turpentine, and has lately come into use as a palliative in bronchial affections. A formula for its preparation is as follows: Oil of turpentine is mixed with five per cent., by weight, of strong sulphuric acid; after standing twenty-four hours the clear liquid is decanted and distilled in glass To render the product optically inactive no less than eight distillations are said to be required by Prof. Hurty. The distillate is then washed with water and a solution of sodium carbonate in water until neutral; then dried over calcium chloride, and again rectified.

58. DECOLORATION.

C. E. Churchill (Lewistown, Ill.) desires to know what is meant by decoloration in pharmacy, and inquires if decolorized tincture of iodine is an example. Decoloration is purely a pharmaceutical process—that is, chiefly mechanical. It consists in depriving solutions of their color without resort to chemical means. Familiar illustrations we have in depriving vegetable solutions of inert coloring matter in order to obtain the solid substance in pure form, as, for example, in the manufacture of cane sugar and some alkaloids. In these the crude solutions of the vegetable substances are deprived of the coloring matter by filtration through animal charcoal, which retains or absorbs the latter. Decoloration may also be effected through the processes of distillation, and sometimes by dialysis. But when a liquid or substance is freed from color by the addition of another substance, by which a chemical action takes place, and a new, colorless compound is formed, it is not owing to decoloration in the proper meaning of that term The decoloration of the tincture of iodine is purely chemical, in that new, colorless compounds of ammonium iodide, etc., are formed, and the character and properties of the tincture are entirely changed.

59. THE USE OF HCL. IN LUNAR CAUSTIC.

L. E Neitz (Rochester, Minn.) inquires why hydrochloric acid is used in the preparation of "lunar caustic." By referring to the National Dispensatory you will find it stated that Dr Squibb, as early as 1858, proposed an addition of five per cent. of silver chloride to the nitrate, in order to make the sticks (lunar caustic) more tough, and prevent breaking when used. This is now recognized in the U. S. P. by the addition of four per cent. of hcl. to the nitrate crystals when fused, which displaces a portion of the nitric acid and forms about five per cent. of chloride. Its presence is detected by its insolubility in water and dilute nitric acid when the stick-caustic is dissolved in this liquid. It is, however, completely soluble in ammonia water.

60. RUBBER PLASTERS.

C. R. B. (Detroit, Mich.) inquires whether or not the rubber plasters of the market sold as officinal answer the pharmacopœial requirements. He believes that when rubber is used as a basis for the medicaments, it must necessarily be employed in greater proportion than the simple plasters or pitches used for that purpose. We have no direct knowledge as to the manufacture of rubber plasters. If the plasters are officinal, they should represent the officinal proportion of active ingredients in a certain weight of the finished plaster. But even then the real strength of the preparation would, we suppose, depend upon the comparative quantity of plaster spread upon each cloth or piece of leather for application.

61. VETERINARY MEDICINE.

Constant Reader (Dix, Ia.), having received the following prescription, desires to know whether or not the dose is too large. It is designed for killing worms in horses:

℞ Hydrarg chlor. mite.....ʒiv
Valerianæ pulv.....ʒiss

Mix, and divide into four equal parts. Give one powder morning and evening.

No, we think not. We are credibly informed that as much as two and a half ounces of calomel have been given at one dose to a horse without serious result.

62. CARBOLIC SALVE.

G. D. C. (Remington, Ind.): We do not know the formula for "Cole's Carbolasive Salve." It is probably a preparation of local fame. The officinal carbolic acid ointment is probably a better preparation, or the carbolated petrolatum may be used.

63. CHANGING THE HAIR TO GRAY.

E. H. B. (Milwaukee, Wis.): Hair has hitherto been turned gray through the influence of age or some strong emotion. The applicant for premature grayness might try to do the parliamentary business at some of our druggists' conventions, or he might attempt the evolution of a working successor to the "Campion" plan. Should these fail, a trip to the Pacific coast in behalf of Chinese immigration might have good results.

"FOUR CHLORIDES."

(Editor The Western Druggist.)

The formula of Dr. A. H. Smith, known as "four chlorides," is as follows ("Hartshorne's Essentials of Practice"):

Common chloride of mercury...grains	1 to 2
Solution arsenious chloride.....fl. oz.	1
Tincture chloride of iron	
Diluted hydrochloric acid..of each fl. drams	4
Simple syrup..... .....fl. oz.	3

Water sufficient to make 6 fluid ounces.

Dose, a dessert spoonful in water after each meal.

A powerful alterative, e. g. in chlorosis, anæmic syphilitic cases, etc.

Noticing query in January number of the WESTERN DRUGGIST I send you the above. Yours truly,

A. B. LYONS, M. D.

DETROIT, MICH., Feb. 17, 1886.

THE STRENGTH OF AMMONIA WATER.

To J. P. Marvin, Harrison, Ohio: All specimens of aqua ammonia thus far examined (50 in number) for the Ohio State Pharmaceutical Association contained solid substances, mostly ammonium sulphate, chloride and carbonate, and for this reason their specific gravity has not been taken. Sample from your store contained 11.028 per cent. of NH_3. Samples labeled 4F. contained from 6 per cent. to 14.37 per cent. of NH_3. All but 8 in 50 contained metals, mostly lead, sometimes copper and tin.

Respectfully, W. SIMONSON.

SPRINGFIELD, OHIO.

DISGUISING THE ODOR OF IODOFORM.

[Editor Western Druggist:]

The substitution of the odor of Carbolic Acid for that of Iodoform, as recommended in your last issue, is not, to my mind, a very valuable one. Let me ask your numerous readers to try Oil of Bitter Almonds, a few drops of which are sufficient, not only to disguise the odor of the Iodoform, but also that of Carbolic Acid. Yours,

C. L. MARTIN.

ELK RAPIDS, MICH., March 2, 1886.

SEA FOAM.

(Editor The Western Druggist.)

I notice you have published several formulas for Sea Foam. I think I have a better one than any I have yet seen published.

℞	Aqua Ammonia	fl. oz.	2
	Tincture Cantharides	"	1
	" Capsicum	"	1
	Alcohol	"	32
	Water	"	32
	Carbonate Potassa	ounces	1

Dissolve the potassa in part of the water and mix.

P. Q. BOYDEN.

HENDERSON, WIS., March 3, 1886.

SYRUP BY THE COLD PROCESS.

(Editor The Western Druggist.)

My experience in preparing Simple Syrup by the cold process has for the past twelve years been most satisfactory, and for the benefit of those readers of the WESTERN DRUGGIST who have heretofore prepared their syrup with the aid of heat, I would suggest a trial of this plan.

Using a quart glass funnel, I get a small cone-shaped sponge, not too fine, moisten in water until soft and insert in the mouth of the funnel with gentle pressure. In the funnel nearly full of granulated sugar soft water is poured until the sugar is all dissolved, and the solution has passed through the filter. Syrup prepared by this process never becomes candied or rancid. Granulated sugar is the only kind that can be used upon a filter of this kind.

Yours, W. H. PIERCE.

STORM LAKE, IOWA, Feb. 26, 1886.

RESTORING DISCOLORED WINE.

(Editor The Western Druggist.)

In the W. D. (February query No.) an inquiry is made how the natural color of wine may be restored which has become black from contact with an iron faucet. The addition of about eight ounces of sweet milk to the gallon of wine precipitates the foreign matter to which the discoloration is due. I have used this process very successfully with whiskey which had turned black by being carelessly left standing in a tin can.

F. E. COFFEE.

AVOLON, MO., Feb. 24, 1886.

(The above was recommended in the same number of the W. D. in reply to Query No. 28. ED. W. D.)

TINCTURE CHLORIDE IRON.

(Editor The Western Druggist.)

In answering Query No. 39 (W. D. Feb.) you say that you do not believe it would diminish the therapeutic efficacy of Tr. Ferri Chloridi to use an alcohol diluted with water in making it. This would be something of an object economically, but it seems by the text books that it would be objectionable. The Companion states that on standing three months the free hydrochloric acid acts on the alcohol, producing "chlorinated ether compounds," which give it an ethereal odor; and that when not made with strong alcohol no ethereal odor is developed, no matter how long it may stand. This hydrochloric ether or chlorinated ether seems to add to its therapeutic effect as well as rendering the tincture more pleasant to the taste, according to the Dispensatories. In one of these it is stated that "a diuretic action is attributed to it, probably due to the ether which it contains;" another says simply that it is supposed to be diuretic. So it would seem that it would not do to use anything but strong alcohol in making this tincture.

Very truly, F. W. BENSON.

LOWELL, WIS., Feb. 21, 1886.

[Our correspondent is correct as regards the statements in the works referred to. Our suggestion that water may be used, was made from pharmaceutical considerations for the reason that a more permanent preparation can thus be produced. Should such practice, however, conflict with considerations of much greater importance, namely, its therapeutic value, then any innovation should be very carefully considered, and if it prove to be of the least disadvantage in this respect it should be abandoned without ceremony. It was not our province to discuss the subject from a therapeutic standpoint, but since our correspondent has pointed to the "trinity of authorities," we desire to show that our advice was based upon facts, and not upon fiction handed down in several generations of Dispensatories. We have been shown by Rother and J. W. England (Am. Jour. Phar.) that the ether is chiefly *nitrous* ether, produced by the action of free nitric acid (always present in solutions of chloride of iron) upon alcohol in the tincture. The nitrous ether is present in very small quantity, much less than in the officinal spirit of nitrous ether, which contains about 5 per cent. of it, yet the last mentioned must be given in large doses of one fluid dram before any decided effect is produced. Tincture of chloride of iron, on the other hand, is rarely given in doses exceeding 10 drops (5 minims), which would represent an almost infinitesimal quantity of the nitrous ether. We believe, therefore, that the quantity present in tincture of iron is just barely sufficient to make its odor known, and not in a degree to have the remotest specific therapeutic action.]

THE MILKINESS OF SP. PEPPERMINT.

(Editor The Western Druggist.)

"M. B.," of Princeton, Wis., can obviate the milky appearance of "Tr. or Spirits of Peppermint" by adding one ounce of absorbent cotton, in shreds, to each quart of the alcoholic solution of the oil, shaking thoroughly, and allowing to stand from one to two hours. Then filter, returning the filtrate until a clear, greenish color is obtained. We use Hotchkiss' Oil Peppermint with the results stated.

JEROME BROS.

YORK, NEB., March 4, 1886.

(Editor The Western Druggist.)

Noticing your remark to "M. B.," of Princeton, Wis., in regard to the milkiness of a tincture made with "oil

peppermint and alcohol," on page 58 of the WESTERN DRUGGIST for February. I am constrained to say that my experience leads me to believe that said milkiness is usually due to *want of strength in the alcohol*, though perhaps sometimes to an impurity of the oil. With a reasonably pure oil and alcohol of full proof, a clear tincture is made by simple mixture, in the proportions usually used, of oil of peppermint 1 ounce to 15 ounces of alcohol, and that just in proportion as the alcohol is below strength will the milkiness of the mixture increase. The use of the herb certainly does assist in clarifying the Tr. when a weaker spirit is used. J. H. SALLS.

LAKE CRYSTAL, MINN., Feb. 21, 1883.

[The presence of water in the alcohol as a cause of turbidity was not lost sight of but is a fact so well known as to require no consideration. A peculiar turbidity or milkiness, however, sometimes *does* occur with the use of 94 per cent. alcohol, and the previous remarks were made with a view to remedying it by filtration through an absorbent substance. The herb has answered this purpose to our personal knowledge, though probably not as effectually as the cotton recommended by another correspondent. The herb was suggested because its use entailed no addition to the ingredients in the officinal formula, and we believe, other things being equal, in following the pharmacopœial directions, especially if they simplify matters. It is possible that the oil exhibiting this peculiarity may have been adulterated with olive or other fixed oil which would account for the turbidity as well as its subsequent removal by the clarifying agent.—ED. W. D.]

"SWEET CORRASSA" AND "HALISH."

Under the head of "Queries and Formulæ," No. 36, March issue, "Sweet Corrassa once more," you treat the Corrassa swindle and the Halish sativa swindle as one. You are in error.

The "Corrassa prescription" emanates from Rev.(?) Joseph Inman, New York City, and is known as the Bible house prescription.

The Halish sativa prescription comes from Noyes, of Rochester, N. Y. They are entirely distinct, and different in composition. The formula you give "as the honest English of the cipher prescription," is the *analysis* of the "Corrassa" medicine *as sent out by Inman*.

The Noyes prescription, although containing some obsolete terms, is readily deciphered. The medicine is a brick red powder, put up in a box holding about four ounces, and sold at the moderate price of $3.00. This powder, according to S. B. McKeown, of Youngstown, Ohio, consists of

A meal closely resembling buckwheat	50.00
Sugar	25 00
Rochelle salts	25.00
Red coloring matter.	

F. Stearns found it essentially the same, with the addition of anise seed. I am glad to see you have declared war upon the nefarious traffic, as well as upon the patent medicine proper.

L. C. HOGAN.

ENGLEWOOD, ILL., Feb. 22.

[The corrected formula as above may or may not differ essentially from the one given last month. "Sweet Corassa" and "Halish Sativa" are twin frauds so closely resembling each other in iniquity that mistaking one for the other is little else than a confusion of names. We have heard from a number of the "botanic druggists" who appeared in the "Sweet Corassa" list published last month, but regret that but two have offered a satisfactory statement. Mr. Sloan, of Indianapolis, states that he is in no degree responsible for the use of the name of his firm, and H. H. Meyer, of Sleepy Eye, Minn., submits the following in explanation of the appearance of his name in the circular:

(Editor The Western Druggist.)

It is a fact that years ago some patients ordered through me "Cannabis Sativa," and that I promised to keep it in stock to accommodate certain customers who had tried it before. But when I saw the formula and learned what sort of business it was—all for "sweet humanity's sake"—I withdrew, and during the last three years nobody could get it from me nor through me. In a letter from Noyes to a neighbor of mine about three years ago I saw the following sentence: "We learn your druggist will sell our Remedy no longer. We think he prefers to sell other preparations less expensive, and which give him a greater profit." H. H. MEYER.

SLEEPY EYE, MINN.

DIPLOMAS AND STATE PHARMACY LAWS.

In an editorial in your January number you say: "How to secure a really efficient law is a question worthy of serious thought. We would suggest (1) attention to recognized fundamental requirements, such as making an examination by the State Board the *sole* test of registration, etc." Will you be pleased to expand your views in regard to the "sole test," etc., as stated by you, considering that we have chairs of Pharmacy in Universities and, at least, some Colleges of Pharmacy whose diplomas may deserve recognition. R. A. S.

MAYVILLE, WIS., Feb. 20.

[Editorials in this and previous issues present our views.]

UNTOWARD EFFECTS OF COCAINE.

A subscriber reports two cases in which untoward effects followed the injection of a cocaine four per cent solution into the gums; in one case temporary one-sided paralysis of the mouth resulted, and in the other "spasms." In the first case some injury in injecting the fluid seems to have played a part in producing the symptoms, while in the other case the patient was very susceptible to pain and "trembled" when teeth were pulled without cocaine. In both cases the influence of cocaine seems doubtful.

SOZODONT.

This much-advertised tooth-wash consists of: Soap, 5 parts; glycerin, 6 parts; spirits, 30 parts; water, 20 parts. Flavored with several cheap oils, and colored. The accompanying tooth-powder is a mixture of orris root, chalk and magnesia. Both are very dear at half the price.

POMADE HONGROISE FOR FIXING MOUSTACHES.

Take of

Wax	4 troy ozs.	Gum arabic, powd.	2 troy ozs.
Oil soap	2 "	Water	4 fl. oz.
Bergamot oil	½ fl. oz.		

Dissolve the gum in the water; melt the wax and soap together in a water bath, stir in the solution of gum, and lastly, just before cooling, add the bergamot. Color, as required, with burnt umber or lampblack rubbed to perfect smoothness on a slab with a little of the melted wax. Put up in small porcelain jars.

Clerks' Department.

BY PHARMAKON.

SPECIFIC GRAVITY.

When in our last these articles were so abruptly terminated we had just begun to introduce the subject of specific gravity in connection with treating of theparts by weight system of the Pharmacopœia. However essential a proper understanding of this subject may be in reducing the strengths of preparations prepared parts by weight into their strength expressed in weight and measure—ounces and pints—it is of still greater importance in a general sense in pharmacy because there is scarcely a liquid which is not affected by it in one way or another. But with liquid chemicals, such as acids, alcohols, ethers, etc., and Pharmacopœial preparations, such as liquors and solutions for the most part bought from dealers, some easy and. ready method for identification, or for testing their strength, is very essential. As these, with scarcely an exception, possess different specific gravities—that is, their volumes differ in their relation to weight—a knowledge of this difference constitutes one of the best of readily available means for their identification or determination of their strengths.

While this is true of all the simple officinal liquids, there are many exceptions, as, for example, mixtures and preparations, such as the medicated waters, tinctures, etc., where the same menstruum or solvent is used in several different preparations, and hence the specific gravity is nearly the same, there are also preparations like the volatile oils, many of which have the same specific gravity. In these exceptions the specific gravity does not indicate the identity nor strength, but its use should be confined to the more strictly chemical liquids. Even with these, the specific gravity is not always a certain guarantee of the right strength or purity, as, for example, in the case of the mineral acids. One of greater density like sulphuric acid, may be present in one of less density as in the case of hydrochloric acid, and though the latter be below the required strength, its specific gravity would indicate it to be perhaps above it, owing to the admixture with the heavy acid. Stronger water of ammonia, for example, may hold salts in solution, which increase its density so as to be of the officinal sp. gr. (.959), and yet contain considerably more gas than is indicated by this sp. gravity. For this reason the sp. gravity is not to be absolutely relied upon as indicating especially the purity of these liquids, but should be used in connection with the other tests directed in the U. S. P.

The determination of the specific gravity of liquids, although an operation which can and should be practic·d daily in the pharmacy, is nevertheless a process seldom attempted, and even the subject is one which is rarely understood thoroughly, even by those regarded as otherwise well qualified. This is chiefly owing to the fact that no practical demonstration is made at the time the subject is treated. There exists in the mind of the beginner an exaggerated idea as to the implements or apparatus required for its performance, and as these usually are not at hand he is disposed to content himself with learning the rules from the books, and as a consequence soon forgets the principles involved. This is entirely wrong. Practical demonstration at the time is the only means by which the principles can be thoroughly understood. While it is true that for great scientific accuracy delicately constructed instruments are required, sufficiently accurate results for all practical purposes may be obtained from the use of the ordinary apparatus in every pharmacy.

First of these is a good balance, the prescription scale sensitive to at least one grain and provided with accurate weights. To take the specific gravity of a liquid, procure a container of a certain bulk, such as a small vial, its capacity of volume being expressed by the weight of a certain quantity of pure water at a given temperature. While a vial of any capacity will answer, one that holds a round decimal number of grains is to be preferred, because of the ease with which the specific gravity can then be computed. It should also be so constructed, if an ordinary vial, without ground glass stopper, that the height of the liquid may be marked with a file or diamond at a point most narrow in diameter—the neck—so as to avoid variation as much as possible. Such a vial may be selected from one or two ounce vials, the former holding about 475 grains, the latter about 950 grains of pure water. The one-ounce vial of this capacity would hold of glycerin 593.75 grains; then by dividing the weight of the glycerin by the volume for comparison of water we obtain the specific gravity of the glycerin thus:

593.75÷475=1.25 sp. gr. Thus we obtain the same results, no matter what vessel is employed for determining this difference, provided, of course, that it admits of no variation in measuring the bulk. A pint bottle or a gallon demijohn may be used equally well, but in order to reduce the chances of error to a minimum, it is best for reasons before stated that smaller vessels be used.

That all variation, however, may be excluded, glass-stoppered bottles are used, especially constructed for the purpose. Their capacity, when completely filled, is either 500 or 1,000 grains of water; the stopper having a very fine opening for the escape of air bubbles and superfluous liquid. These vials, also called pycnometers, are very accurate, and every pharmacy should be supplied with one as they may be obtained from any dealer in chemical glassware.

Glass-stoppered one-ounce iodine vials may sometimes be found which hold a convenient volume of water, and by making an incision lengthwise upon the stopper with a three-cornered file an opening is produced, which answers the same purpose as the orifice in the more expensive vials above described.

Furnished with any of these objects, the veriest beginner in pharmacy can take the specific gravity of any liquid, the simplest knowledge of arithmetic being all that is required. It should be remembered that the thing sought is the *difference* in *weight* of a liquid compared to water and measured by the volume, or, as it is most frequently expressed, the *relative* weights of *equal volumes*, or bulks of *different* liquids at the *same temperature*. A certain volume being decided upon as a standard for comparison, we express that by weight of water and the weight of an equal bulk of any liquid is divided by this weight. When this standard for comparison is already, or can easily be converted into, a round decimal sum the division is effected by simply moving the decimal point to the left or right, as for example:

Glycerin water.
1,250 ÷ 1,000 = 1.25 sp. gr.
Alcohol water,
820 ÷ 1,000 = 0.820 sp. gr.
and so on.

Botany and Microscopy.

ENDOWMENT OF BOTANICAL RESEARCH.

The February number of the Botanical Gazette contains a sensible and timely editorial on this subject. It is a well known fact among botanists that so far as original research in the science is concerned, this country is doing nothing like the amount of work that is done by Germany. The reason is not because we have no men of ability in this department of science; on the contrary, we have a good many men of unusual ability. But the trouble is they are mostly professors of botany and perhaps of two or three other sciences, and so much work is exacted of them by the schools which employ them—so much of the routine of the schoolroom—that there is absolutely no time left for original work. The editorial asks very pointedly, "If teaching is all, what is to become of the science? Are we to teach the same things over and over again, with an occasional new inspiration wafted across from the German laboratories, and simply raise up teachers to follow in our footsteps? Unfortunately, in this country the professional botanist is almost of necessity a teacher only, with his time fully occupied in the drudgery of the laboratory and lecturing upon the very rudiments of his science. If our endowments for botanical teaching have not now secured a perennial succession of teachers, then has all our teaching been in vain. What we now need is endowment for botanical research, that our country and our botanists may do themselves credit. This does not necessarily mean a great outlay of money, but simply a supply of trustworthy assistants for teaching, that the professor may have ample time for research. Time is what is needed vastly more than money, and when our boards of control begin to appreciate the reflex influence of original investigators upon the whole system of education, they may see the wisdom of employing the necessary assistants. It is not to be expected that we can soon emulate foreign countries in the matter of opportunities for original research, but it is a thing that our well-equipped universities should begin seriously to consider, and the first and most practical step is to give the professor more, time for special work. Furnishing cheap or temporary assistance will not answer the purpose, but they should be of such proficiency that if desirable the entire work of instruction can be left to their care. In several universities we could mention an abundance of material is stored up, with all needed accessories of library and apparatus, only waiting time to become productive. The amount of dead capital laid up in such equipment in this country is astonishing. In such cases an endowment for research would simply mean a sufficient outlay to pay a reasonable salary to a competent assistant.

"Of course many professors have neither the ability nor inclination to pursue original investigations, and for such we make no plea. But there are some who have already shown their ability and desire in this direction, in spite of many other time-consuming duties, and it is for such that we urge a more liberal allotment of time. It has been said that the boards of trustees cannot be made to understand that anything is needed in a university except teachers and equipment for teaching, but we have just that faith in the growing intelligence of our people which leads us to believe that we will not long be without some such provision as we have suggested."

IDENTIFICATION OF DISPUTED SIGNATURES.

Some time ago there appeared in "Science" an article giving an account of the application by Dr. Persifor Frazer of Philadelphia, of composite photography to testing the genuineness of signatures. The Doctor claims that the composite of a large number of signatures shows an individuality little less distinct than the race characteristics obtained by photographing faces. He even claims further "that the variations which appear on the plate either as faint lines or blurs, furnish the most valuable aid in determining whether or not two pieces of writing are by the same hand." Dr. Marshall D. Ewell, in commenting on the article in the Legal News, acknowledges that in some rare instances the method may have some practical value, but says, very sensibly, that the instances in which it may be made use of in the detection of crime must be very few indeed, and when the forged signature is produced by the method of tracing, as is very commonly the case, composite photography would not only be valueless but misleading. Bank cashiers might possibly make some use of the method in the detection of forged checks or forged bank bills, but even here its utility would be very doubtful. The matter, however, has some scientific interest.

THE FILAR VS. THE ORDINARY GLASS EYE-PIECE MICROMETER.

A statement was made some time ago in the American Journal of Microscopy, in an article contributed by Mr. H. L. Tolman, that as the result of measurements made independently by Dr. Ewell and himself, the former with a filar and the latter with a glass eye-piece micrometer, it was concluded "that the cobweb micrometer does not offer sufficient advantage in point of accuracy to compensate for its additional cumbersomeness and expensiveness." This statement was founded on the measurement of 75 human red blood corpuscles, 50 of them by Mr. Tolman with a Spencer 1-10th and an ordinary eye-piece micrometer, and 25 of them by Dr. Ewell with a Spencer 1-10th, a Bausch and Lomb amplifier and a filar micrometer made by Bulloch. Mr. Tolman, as the mean result of his measurements, obtained 1-8139th of an inch as the diameter of a corpuscle, and Dr. Ewell 1-8188th of an inch. Since then Dr. Ewell has instituted a much more severe comparison between the two kinds of eye-pieces, and the results he has obtained, which are stated in full in the February number of The Microscope, are decidedly in favor of the filar micrometer. The result as stated in his own words is as follows: "The conclusion of the whole matter, therefore, is that for the comparison of lengths nearly equal, and for the measurement of minute distances with low powers, the glass eye-piece micrometer is vastly inferior to the filar micrometer; and that in cases where the greatest attainable accuracy is required, as for example in the measurement of blood corpuscles in criminal cases, nothing but the filar micrometer should be used."

A BLACK GROUND FOR OPAQUE MOUNTS.

Mr. W. C. Brittan publishes in The Microscope the following recipe for a paint that will give a dead black, useful either for blacking the inside of the tubes of optical instruments to prevent internal reflection, or as a background for opaque mounts:

"Take two grains of lamp black and add three drops of

gold size, mix thoroughly and add twenty-four drops of turpentine; when again thoroughly mixed it is ready for use. Apply it thin with a camels' hair brush."

CEMENTS.

The following is highly recommended for cementing brass cells to glass slides: Lead carbonate ⅛ ounce, red oxide of lead ½ ounce, litharge 1½ ounce. Mix thoroughly in a mortar, add enough gold size to make it of the proper consistency.

The following is serviceable for the same purpose, for applying as an ornamental finish to glycerin jelly or glycerin mounts, for making cells, etc. It is very durable, and does not crack: Dissolve a good quantity of orange shellac in absolute alcohol, making the solution thin enough so that it will filter without difficulty; add enough of some suitable aniline color that is sufficiently soluble in alcohol to give it the requisite depth of color; after filtering let it stand in an open bottle, but protected from dust, until it has become thick enough not to run when applied to a slide with a camels' hair brush. It is then ready for use.

A good quality of dammar varnish, to which the so-called "gold paint" or "silver paint" sold in the shops has been added in proper proportion and intimately mixed, forms a good material for finishing slides. When the cement stands for some time the paint settles to the bottom of the bottle but it may readily be diffused through the liquid again by agitation.

One of the most valuable reagents, according to our experience, for clearing plant sections so as to study cell-wall structure, is Labarraque's solution (Sol. of Sodium Hypochlorite). The solution may be used strong, or diluted somewhat with water, according to the thinness of the section or the delicacy of the tissues. The length of time the section should be immersed in the solution will also vary with the character of the section, but it should usually remain until all parts of the section are thoroughly bleached, but not longer, as the cell-walls themselves would eventually be destroyed. The sections should then be very thoroughly washed with distilled water so as to remove the last traces of the reagent, as its presence, even in minute quantity, will interfere with subsequent staining processes. Eau de Javelle (Potassium hypochlorite) has also been recommended for the same purpose, and possibly in some cases it may have some advantage over Labarrraque's solution. If moderately thin sectians be treated for a quarter of an hour with this solution, in most cases everything will be removed from the cell excepting the cell-walls.

Druggists who use a microscope to which there is a polarizing attachment, will be interested to know that naphthalin, antipyrine and resorcin, when crystalized from alcoholic solution on a slide, form most magnificent polariscope objects.

Mr. Wm. Wales has used a good quality of white resin for cementing the glasses of his objectives together, and he considers it superior to Canada balsam for the purpose. He thinks therefore it should be superior to balsam as a mounting medium for microscopic objects. It is more readily soluble in alcohol, melts readily, cools quickly, and when a good quality is selected is more transparent than balsam.

Prof. W. H. Seaman recently read an interesting paper before the Washington Microscopical Society, in which he treats the subject of media of high refractive indices. One medium with which he has attained brilliant results is a cold saturated solution of sulphur in aniline. A drop of the solution is placed on a slide, the cover glass with the attached diatoms pressed down upon it, the slide heated so as to drive the air out of the diatoms and permit the liquid to enter, and then the cover glass is secured by a ring of balsam or shellac.

Another medium which he recommends is a saturated solution of phosphorus and oil of cassia. The mounts in both of these media appear to be permanent and in every way satisfactory.

In a recent lecture before the Franklin Institute, Mr. O. E. Outerbridge, Jr., made some interesting statements regarding the size of the molecules of matter. We quote as follows: "The gold-beater, as you doubtless know, will hammer the metal into leaves so thin that more than 4,000 are required to make a pile one millimeter in thickness. But vastly thinner gold leaves may be obtained in another way. By electro-plating a known weight of gold upon one side of a sheet of copper foil of given dimensions, a coating of gold may be obtained upon the copper whose thickness is readily ascertainable by a simple calculation; then by using a suitable solvent the copper may be removed, when the leaf of gold will remain intact. After a series of careful experiments I have obtained in this way sheets of gold, mounted on glass plates, which are not more than the 1-40,000th of a millimeter in thickness; and I have some specimens to show you, which I have good reason to believe are not more than the 1-400,000th of a millimeter. To give you an idea of this thickness, or rather thinness, I may say that it is about 1-200th part of the length of a wave of light. Taking Sir William Thompson's estimate of the size of the final molecules, and considering that each layer (of molecules) corresponds to one page of a book, our thinnest film would then make a pamphlet having more than a hundred pages."

A valuable addition to botanical literature is Prof. John M. Coulter's Manual of Rocky Mountain Botany. It describes, very much after the manner of Gray's Manual of the Botany of the Eastern United States, all the known flowering plants and vascular cryptogams between the 100th meridian and the western slope of the Rocky Mountains, and between the latitudes of Southern Colorado and British America. Travelers and residents in that region can now readily identify the plants they find.

Prof. V. C. Vaughan, of Michigan University, who some time since discovered and described "cheese poison," has been continuing his investigations of the same subject, and finds that where milk has been allowed to decompose and stand for some months, the same poison is generated. On this account he advises the disuse of wooden receptacles in cheese-making, and the thorough cleansing of metallic vessels used for the purpose, so as to prevent the development of the peculiar ferment germs that he believes to be the cause of the poison.

TO THE DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION.

The rates given to the delegates to the American Medical Association meeting, May 4, in St. Louis, have been fixed by the different Railroad Committees of the country at one and one-third fares for the round trip. Delegates must pay full fare coming, and will receive on application from the agent at starting point a certificate, which when signed by the chairman of the local Committee of Arrangements, will entitle them to the reduced return rate.

LE GRAND ATWOOD,
Chairman Committee of Arrangements.

Correspondence.

We invite brief letters for this department upon any subject of interest to the pharmacist or druggist.

The publication of communications implies no indorsement by us of their contents.

Names of correspondents will not be printed if so requested.

Address matter for this department to "Editor of the WESTERN DRUGGIST, 69 Dearborn street." To be in season for the next issue, letters should reach us not later than the 5th of the month.

VIOLATION OF PHARMACY LAWS BY PHYSICIANS.

(Editor The Western Druggist.)

I cannot refrain from writing you a few lines upon a subject that directly concerns every pharmacist in the State of Ohio and every other State that has a pharmacy law. There is in this city a reputable physician who is conducting a drugstore and enjoying a fair share of patronage, without having a certificate of registration as required by law, and, although he is clearly violating the laws every day, and everybody who knows anything about it, knows he is, still he is allowed to go right along without any questions being asked. It may be asked, "Why don't you make him comply with the law?" Well, the old saying, "What's EVERYBODY'S business is NOBODY'S," I suppose, will answer that question. That is the only reason I can assign. No one seems to be interested enough in the matter to commence proceedings against him, although it is clearly the duty of every pharmacist in the city to see that this is done. I understand he claims he is not violating the law, because he does not fill prescriptions other than his own, that he will not sell anything that is poison, etc. The law is certainly plain. It says, "No person shall OPEN or CONDUCT a drugs ore or pharmacy until he shall have passed a satisfactory examination before the Board of Pharmacy," and shall have a certificate showing that he has been duly registered or has in his employ a registered pharmacist whose duty it shall be to take charge of that part of the business requiring skill, etc. The law further provides that "no person other than a registered pharmacist or his *qualified assistant* shall dispense the prescriptions of physicians, or sell any drugs, medicines or chemicals commonly known as poisons, etc. Now this store has repeatedly been left in charge of the proprietor's son, a young man who has no certificate of registration, and he has been known to sell such articles as sugar of lead, laudanum, paregoric, etc., and not only that, but when the inquiry was made for red precipitate he coolly informed the customer that he was not allowed to sell it because it was poison. Yet he did not refuse to sell the same person and at the same time, ten cents worth of sugar of lead.

This farce is being enacted every day in open defiance of the pharmacy law, and all because it is no one's particular business to see that the law is enforced. It is my opinion that, unless the law is enforced an effort will be made to have it repealed, which seems to me would be much better than to have one that is a dead letter. I am in hopes that the State association will discuss this matter at its next annual meeting and make some provision for the proper enforcement of the law. OBSERVER.

YOUNGSTOWN, O., March 10, 1886.

[The complaint of our correspondent is a common one in nearly all States having a pharmacy act. Denunciation of counter prescribing by physicians is usually proportioned to the emphasis with which they insist on their right to practice pharmacy. In Illinois and Minnesota unfortunately, this right is legally recognized, but in most States it is not. Experience abundantly proves the assertion of our correspondent that pharmacists will not prosecute offenders and also proves that if the law is enforced at all, it must be by the Board of Pharmacy. This work, however, is arduous and expensive, and the Ohio Board is not in receipt of sufficient revenue to warrant the expenditure. With a renewal registration fee of only one dollar triennially, the Board is necessarily handicapped, as we predicted would be the case when the reduction was made by amendment of the original bill in the legislature despite the protests of the representatives of the State Pharmaceutical Association. The situation calls for amendment rather than repeal. The Ohio law is in other respects too good an act to repeal. The renewal fee should be raised to not less than one dollar *annually*, or perhaps better still, three dollars biennially, and a sufficient fund thus provided for prosecutions by the board.—EDITOR W. D.]

AMENDING THE IOWA PHARMACY LAW.

(Editor of the Western Druggist.)

I have just received the appended copy of the amending bill to be indorsed by the Committee of the Iowa Pharmaceutical Association. No objection will likely be made to it except to the latter clause or *proviso* added by the House Committee to section 2, and to this there should not be when it is clear that unless they ENACT such other bills as propose "to regulate the granting of permits to registered pharmacists" the proviso would subject all pharmacists to the *present obnoxious* and *indefensible* permit law which applies to all alike as common liquor dealers, using only the form of law by which to sell all the liquors they can to whoever will say it is for medicinal, mechanical, culinary and sacramental purposes. The greater hazard, however, is that these other bills, one of which a substitute to House File 228, favorably reported by the Committee on the Suppression of Intemperance, may cause some of its advocates to vote against our bill. It is still to be hoped that the movers of this substitute (who are regarded as friends of registered pharmacists) will see that their substitute affords no relief to a pharmacist who does not wish to become a permit or liquor dealer, and that sound argument on the floor of the House may cause them to support the Pharmacy Bill.

IOWA.

[Following is the text of the amending bill, introduced by La Force. It is known as "House File 464" and should be so designated in communicating with members of the Iowa legislature concerning it.—ED. W. D.]

Be it enacted, etc.: SECTION 1. That section (8), chapter (75), of the acts of the Eighteenth General Assembly be and the same is hereby amended, by adding thereto the following to-wit: "Except that the Secretary of State is authorized to furnish said commissioners with stationery and blanks necessary for their office, and said commissioners are authorized to administer oaths and take and certify the acknowledgements of instruments in writing."

SEC. 2. That section (8), of chapter (75), of the acts of the Eighteenth General Assembly be repealed, and the following enacted in lieu thereof:

SEC. 8. Pharmacists whose certificates of registration are in full force and effect, shall have the sole right to keep and to sell under such regulations as have been or may be established from time to time by the Commissioners of Pharmacy, all medicines and poisons, including intoxicating liquors only for the actual necessities of medicine; provided, that nothing herein contained shall be so construed as to shield the person who in any wise abuses this trust, for the

legitimate and actual necessities of medicine, from the utmost rigor of the law, now or hereafter in force, relating to the sale of intoxicating liquors, and in addition thereto for repeated violations, his name shall be stricken from the register by the Commissioners of Pharmacy upon receipt of tran-cript of final conviction, which shall be transmitted by the court or by order of the court before whom conviction is had. Twenty-five per cent. of all moneys recovered as fines under the provisions of this act shall be paid into the State Treasury, and reported to the State Auditor and held subject to the order of the Commissioners of Pharmacy as needed, to be by them used solely to defray the expenses of prosecutions and enforcement under the act or acts to which this is amendatory. County Auditors shall at any time, upon written application therefor, issue to any pharmacist within their respective county whose certificate of registration is in full force and effect, a permit to receive intoxicating liquors and the presentation of such said permit to any railway company, express company or common carrier within the borders or traversing the territory of the State shall convey full authority to receive, transport and deliver intoxicating liquors to the person named in such permit. Provided, that such permit shall be for specified packages and kinds of liquors, and that a certified copy of such permit shall be kept on file in the office of the auditor issuing the same. The Commissioners of Pharmacy shall, on the revocation or forfeiture of any certificate of registration, subsequent to their last biennial report or abstract of the State pharmacy register, report such revocation or forfeiture to the county auditor of the county wherein such certificate was last in force; provided, that any and all pharmacists shall be subject to all laws now in force, or hereafter enacted to regulate the granting of permits to registered pharmacists for the sale of intoxicating liquors, and to all regulations conditions or restrictions that are now, or hereafter may be, imposed upon the holders of such permits. [This last clause, from the word *provided*, is an interpolation by the House Committee not recommended by the State Pharmaceutical Association, and its representatives should and doubtless will make a bitter fight against it.—ED. W. D.]

SEC. 3. That section 2, of chapter 137, of the acts of the Nineteenth General Assembly be and the same is hereby amended, by striking out the words "twenty-five" in the eighth line, and inserting in lieu thereof, the words "not less than one hundred, nor more than two hundred," and by striking out the word "one" in the ninth line of said section, and inserting in lieu thereof the word "two."

SEC. 4. That section 12, of chapter (75), of the acts of the Eighteenth General Assembly, as amended, be and the same is hereby repealed, and the following enacted in lieu thereof: Section 12: "Physicians dispensing their own prescriptions only, are not required to be registered pharmacists. And in rural districts where there is no registered pharmacist, it shall be lawful for retail dealers to procure a license from the Commission of Pharmacy annually, to sell non-poisonous proprietary medicines, or such domestic remedies which may be in common use, which shall not include any intoxicating liquors, or compounds, or any poisonous articles whatever.

SEC. 5. This act being deemed of immediate importance, shall take effect and be in force from and after its publication in the Iowa State Register and Des Moines Leader, newspapers published at Des Moines, Iowa.

THE METRIC SYSTEM, HISTORICALLY CONSIDERED.

(Editor of the Western Druggist.)

The writer has no apology to make for this intrusion upon your readers other than to call attention to some misleading points in Mr. Schnurrer's article as published in the February number of the WESTERN DRUGGIST, and to relieve Mr. S. of the embarrassment of being misunderstood.

Although he does not say that France waged war upon other nations for the purpose of enforcing the use of the metric system, yet this thought runs so strongly through his article that the reader can scarcely avoid this impression. Probably Mr. S. meant to say this: A war is a potent means of extending knowledge from one nation to another; several nations, through war with France, learned the use of the metric system, and after becoming familiar with the system they were so well pleased as to adopt it as their national system of weights and measures. But the German Empire moved slowly in this matter, for this Government did not adopt this system until about ten years ago.

But he has associated the metric system too intimately with the Revolution. It does not appear that the system was a causal factor in those momentous events, nor that it sustained any relationship to the three desperate characters that he mentions, viz., Danton, Marat and Robespierre. These characters were as dross brought up by the heavings of a volcanic eruption, and figured in the desperate affairs of those bloody scenes, and not in the more calm and deliberate concerns of the nation.

Instead, then, of the system being the "ill-begotten child of the French Revolution," "inaugurated under the guillotine and sprinkled with the blood of kings," it is the legitimate child of science, and dates the necessity of a change in the previous system as far back as the time of Philippe le bel, six hundred years before the revolution.

It is truly, then, the "product of that erudition which was accumulated by the labor and study of ages." During these long six hundred years scientific men had their minds fixed upon various plans of accomplishing this change. And when the tyrant was placed in his grave and his Bastile razed to the ground, the genial rays from the light of science diffused themselves over all human affairs; and among the manifold blessings which gladdened the hearts of men there appeared the metric system.

But, after all, the history and the circumstances under which the system was brought about has no weight in determining whether or not it should or should not be adopted by the American people. The only circumstances which are to determine this question is the merit and practicability of the system, with the advantages to be obtained by the change. In order to arrive at a rational conclusion in regard to these particulars it is absolutely necessary to become familiar with the system; and this familiarity is growing. The masses are becoming acquainted with the name, and are informing themselves of the denominations and of their values. The children are learning it in the schools, and the time will certainly come—perhaps not in this generation—when the growth of the new will smother and kill the old system.

T. L. DIX, M. D.

SHELBYVILLE, KY.

ANNUAL RENEWAL FEES.

(Editor of The Western Druggist.)

What is the usual fee charged by Pharmacy Boards for renewal of registration? We know that the fee in Wisconsin is $1, while in our State (Minnesota) the fee is $2. How does this compare with the amount charged by Illinois and other State Boards?

MINNESOTA DRUGGIST.

MONTICELLO, March 9.

In Wisconsin, Minnesota and Illinois the Board may charge not to exceed $2 per annum, in Michigan and Iowa $1, and in Ohio $1 *triennially*. If the Wisconsin Board has made the fee less than the legal maximum it is an exception to the rule. The Minnesota Board is composed of men who are entitled to the confident belief that the fee would be reduced if in their judgment the interests of the law and of pharmacy in the State would so justify.

J. N. R., Ainsworth, Iowa: We believe alcohol intended for use in manufacturing, as for other purposes, comes within the regulation of the prohibition act including bond, permit, etc.

Mr. Ed L. Day, of Buckhannon, W. Va., in the course of a communication on errors in dispensing, declares that in his judgment the only solution of the difficulty is to label the bottle plainly and follow the old rule, "Look at the medicine as you take it from the shelf, and look at it as you put it back." With this precaution there is little danger of error; without it, the peril is never absent.

Reviews.

THE POCKET FORMULARY and Synopsis of the British and Foreign Pharmacopœias comprising Standard Approved and most Recent Formulæ for the Preparation and Compounds employed in medicine. By Henry Beasley. Eleventh Edition. Philadelphia: P. Blakiston, Son & Co., 1886. Chicago: G. P. Engelhard & Co. Price, cloth, $2.25.

This work is a compact book, embracing over 500 closely printed pages. As indicated by the title it includes not only all preparations officinal in the Brisish, German, French and U. S. Pharmacopœias, but also all important un officinal articles employed abroad. Though essentially British, it includes nearly all the remedies employed in French and German practice, the extent of which may be inferred from the fact that no less than 50 formulas are given for medicated baths and as many more for cataplasms.

While embracing all the preparations officinal of the U. S. P. it does not include, however, any of the many unofficinal preparations so largely employed in this country. A striking illustration of this is found in the fact that under Elixirs only the half dozen antiquated Paracelsi, Longæ vitæ, Paregoric, etc., are noticed. Under Fluid Extracts the formulas officinal in the U. S. P. are given; in some instances, the processes for the "liquid extracts" of the P. Br., most of which are not entitled to the distinction of being termed processes, are produced. It would have improved the work not only in the estimation of American pharmacists, but perhaps also of those abroad, if some of these had been discarded for the unofficinal processes so well known in American literature. But the utter unfamiliarity of the reviser with American pharmacy cannot be better shown than in the absence of formulas for elixirs, the most important class of all extemporaneous preparations. The use of symbols and Roman numerals are used throughout the text which interfere with its practical usefulness to pharmacists. To physicians, however, it is a compact and convenient reference book and the strength and doses of preparations seem to be very accurately stated.

ORGANIC MATERIA AND THERAPEUTICS. By Jas. Young Simpson, M. D. New York: J. H. Vail,: 1886.

The present work has been arranged with a view of placing in the hands of the medical profession a work on Organic Materia Medica and Therapeutics having a systematic arrangement especially adapted for ready reference. Such is the standard set up by the author and it is a safe standard from which to judge the present work. The first necessity of a work of this kind is accuracy, since it is designed rather as a remembrancer to be hastily used.

The work opens by describing the preparations of the Pharmacopœia. The first definition given is that of an abstract which is said to be "a solid preparation of a drug which is twice as strong as the extract and fluid extract and ten times as strong as the tincture." The definition is decidedly erroneous. In the first place the relations between the abstract and the tincture and fluid extract will vary with the drug; and secondly the relation between an abstract and a solid extract is more than reversed. The opening definition therefore contains many serious errors such as must decidedly impair the value of this work.

The error of the opening definition runs through the entire work and is likely to have very serious consequences in a work intended for hasty perusal as a remembrancer. Another error is the use in the case of aconitine of the termination *in* for an alkaloid, while in the case of the alkaloid of hyoscyamus, *ine* is used. These terminations are used in a very confused and inconsistent manner throughout the entire work. It would be difficult to find greater errors than are to be detected in the parts on therapeutical action. For example, opium is said to be useful in epilepsy, yet it would be difficult to find any authority for this assertion, and if the brain condition is taken into account, the drug is absolutely contra-indicated. Taken as a whole the book has little to commend it and much to condemn it. It is misleading as well in its pharmacology as in its posology.

LECTURES ON SYPHILIS. Delivered at the College of Physicians and Surgeons, Chicago, Ill. By G. Frank Lydston, M. D. Chicago: A. M. Wood & Co., 1885.

The present volume is intended chiefly for the use of students, and contains a rather concise abstract of the modern views on Syphilis. While there is nothing very original in the lectures, there is nothing so misleading as to call for comment. Perhaps the dangers of the communication of syphilis through mucous patches in the mouth are rather under-estimated. The views cited from Dr. Lyman as to the influence of heredity on the contagious diseases are not original with him, nor are they new. In their essence they have floated through medical literature for several decades. The evidence of the possibility of syphilis being communicated to monkeys is much stronger than Dr. Lydston puts it. In his discussion of Dr. Otis' views Dr. Lydston scarcely does justice to that gentleman. The relation of syphilis to the nervous diseases does not secure the attention it merits, nor are the dangers of the communication of syphilis through the midwife and by the Hebrew Mohol pointed out with the care they deserve. Dr. Lydston does not speak too strongly when in discussing treatment, he says that the proportion of syphilitic cases curable by mercury and iodine is so large and so gratifying that no unnecessary time should be wasted upon new and strange drugs, but at the same time it must be admitted that certain scaly eruptions do not yield as readily to mercury and iodine as they do to these when aided by certain vegetable remedies as sarsaparilla, etc. As a whole the book can be recommended to students. While it has a very dogmatic tone this is not easily avoided in lectures. For its price it is fairly issued, but not too securely bound.

A case of poisoning recently occurred in Chicago in which death resulted from the use of two hundred grains each of chloral hydrate and potassium bromide. The amount ordered was a six ounce mixture containing ten grains each of potassium bromide and chloral hydrate to each fluid drachm. The druggist in an interview stated that while the dose (two fluid drachms every two hours) was not excessive he thought the quantity was and so cut it down one half. In view of the fact that in certain nervous diseases such large quantities would be required, the druggist was hardly justified in this course unless he had reason to suspect criminal intent or carelessness on the part of those who were to administer the medicine.

Societies and Colleges.

BULLETIN OF PHARMACEUTICAL ASSOCIATIONS.

For information upon any subject relating to the affairs of any association, address the Secretary. For information regarding commercial exhibits, address the Local Secretary at the postoffice designated as the place of meeting. Blanks in the table will be filled out on receipt of the required information, which we shall be pleased to receive from the Secretary or other officer.

Ph. Association.	President.	Secretary.	Treasurer.	Place and Time of Meeting.	Local Secretary.
Am. Phar. Asso.	Jos. T. Roberts, Baltimore, Md	J. M. Maisch, Philadelphia	C. A. Tufts, Dover, N. H.	Providence, R. I., Sept. 7	W. B. Blanding
N. R. D. A.	E. A. Sayre, Brooklyn, N.Y.	J. W. Colcord, Lynn, Mass.	F. H. Masi, Norfolk, Va.	Providence, R.I., Sept. 6	.....
N. W. D. A.	M. N. Kline, Philadelphia.	A. M. Merriam, Minneapolis, Minn.	S. M. Strong, Cleveland, O.	"Minneapolis-St. Paul," Sept. 21	.....
State Associations.					
Alabama	.....	P. C. Candidus, Mobile	.....	Birmingham, May 11	G. M. Bains
Arkansas.....	.....	J. B. Bond, Little Rock	.....	Little Rock, April	.....
California.....	.....	Chas. Troppman, San. F.	.....	.....	.....
Connecticut....	F. M. Wilson, Willimantic.	F. Wilcox, Waterbury	G. P. Chandler, Hartford	Meriden, 1887.	.....
Delaware	.....	.....	.....	.....	
Florida.....	.....	.....	.....	.....	
Georgia.....	H. G. Hutchinson.	W. S. Parks, Atlanta	.....	Savannah, April 13	
Illinois.....	T H. Patterson, Chicago.	T. N. Jamieson, Chicago	B. F. Gardner, Atlanta	Rockford, June 8.	J. R. Porter
Indiana.....	August Detzer, Ft. Wayne.	Jos. R. Perry, Indianapolis	Emil Martin, Indianapolis	Lafayette June 8.	David Hilt
Iowa.....	A. H Miles, Des Moines.	R. M. Upson, Marshalltown	C H. Ward, Des Moines	Waterloo, May, 1887.	O. D. Wangler
Kansas.....	H. W. Spangler, Perry.	John T. Moore, Lawrence	C. D. Barnes, Abilene	Emporia June 9	D. W. Morris.
Kentucky.....	H W. Evans, Danville.	J. T. Cook, Harrodsburg	J. J. Brooks, Richmond	Bowling Green, May 5	W. Turner
Louisiana.....	.....	Mrs. E. Rudolph, N. O.	.....	New Orleans, April 21	.....
Maine.....	.....	.....	.....	.....	.....
Maryland	.....	M. L. Byers, Hagerstown	.....	Annapolis, June 1—	.....
Massachusetts...	Frank M. Pease, Lee.....	J. W. Colcord, Lynn	F H. Butler, Lowell	Boston, June 2—	Henry Canning
Michigan.....	H. J. Brown. Ann Arbor.	Stanley E Parkill, Owosso	Wm. Dupont, Detroit	Grand Rapids, Oct 12	Wm. L. White
Minnesota...	S. W. Melendy, Minne'lis	W. S. Getty, St. Paul	J. C. Hening, Stillwater	Minneapolis, June 9	Jos. R. Hoffin.
Mississippi.....	J. P. Finlay, Greenville	H. F. West, Fayette	W. R. Brenning, Natchez	Jackson, May 18	.....
Missouri.....	A. T. Fleischman, Sedalia	G. H. C. Klie, St. Louis	J. M. Good, St. Louis	Sweet Springs, June 15	.....
Nebraska.....	H. D. Boyden, Grand Island	F. P. Zimmer, Grand Island	C. F. Goodman, Omaha	Omaha, May 11	C. J. Daubach
New Hampshire	M. S. Woodman, W. Lebanon	G. F. Vanderbilt, Concord	.....	—— Oct.	.....
New Jersey.....	W. M. Townley, Newark	R. H. Van Sant, Trenton	Wm Rust, New Brunswick	Newark May 19	.....
New York	T. J. Macmahan, New York	C. W. Holmes, Elmira	C. H. Butler, Oswego	Rochester, June 8	C. H Harkin
North Carolina.	.....	J. C. Munds, Statesville	C. F. Nurman, Manchester	Fayetteville, Aug. 11	B. E. Ledberry
Ohio....	W. M. Melville, Sandusky	L. C. Hopp, Cleve and	Chas. Huston. Columbus	Springfield June 8	Chas. Ludlow
Pennsylvania...	C. T. George, Harrisburg	J. A. Miller, Harrisburg	J. L Lemberger, Lebanon	Lebanon, June 8	J. H. Redsecher
Rhode Island...	Wm. K. Reynolds	H. I. Leith	John E. Potter	Providence.	.....
South Carolina..	.....	P. Wineman, Charleston	.....	.....	.....
Tennessee.... ..	.....	.....	.....	Knoxville, May 13.	.....
Texas.....	G. Kalteyer, San Antonio	Dr. G. Rice, San Antonio	E. W. Lancaster, Marshall	Dallas, April 27.	E. A. Eisenlohr
Vermont.....	.....	.....	.....	.....	.....
Virginia	J. W. Thomas, Norfolk	E R. Beckwith, Petersburg	F. H. Masi, Norfolk	Alexandria, May 11	E. Warfield ....
West Virginia..	.....	C. Moenkemoller, Wheeling	.....	Wheeling, June 8	.....
Wisconsin.....	F. F. Prentice, Janesville	E.B. Helmstreet, Janesville	W. P. Clarke, Milton	Tuesday. Aug. 10	F. M. Givens ...

OHIO LICENTIATES.

At the examination held by the Ohio Board of Pharmacy in Cincinnati, Jan. 11, forty-four persons were awarded certificates of competency to register as pharmacists. The following is the list as furnished by Secretary Philip H. Bruck, March 5:

H. Voeckell, New Bremen; C. I. Zimmerman, Madison, Ind.: W. Baldwin, Rushville, Ind., E. T. Warnock, Greenup, Ky.; E. B. Tuteur, Lacrosse, Wis.; F. H. Young, Miamisburg; C. O. Brown, Barnesville; C. A. Purdum Marshall, Ill.; C. H. Wilkinson, Mt. Vernon; D. B. Hall, Springfield; G. W. Cunningham, Fostoria; F. H. Swift, Oberlin; C. Jungk, Fremont; D Weyburn, Toledo; F. J. Widrig, Newport, Ky.; O. A. Ohl, Tiffin; J. E. McClelland, A. Herrman, Cleveland; E. H. Stahlhuth, W. W. Ford, O. E. Plath, W. T. Schell, L. S. Schreck, L Schaefer, A. Falk, A. Rendig, C. Fieber, F. A. Muller, J. Krause, H. Brakenmann, C. S. Ashbrook, O. A. Moeglich, Wm. Valentine, E. Doerr, H. Gradel, H Kroegel, E. Heinemann, L. D. Flick, F. Grote, A. W. Schneider, J. H. Brink, E. Whitney, E. Henn, J. M. Biehl, Cincinnati.

Twenty-eight received certificates to register as assistant pharmacists: E. Jackson, Hamilton; J. Kiehl, Mt. Sterling, Ky; C. A. Fisher, Hamilton; A Q. Taylor, Wilmington; A. Keim, C. Maginn, Chillicothe; A. Bresky, Cleveland; W. E. Smith, Huntington, West Virginia; F. H. King, Delphos; H. A. Frankman, Versailles; F. M. Woods, Warren; F. M. Greenslade, Bellevue; E. P. Orth, Dunkirk; W. Hurst, Logansport, Ind.; J. A. Tilton, Springfield; C. Grubel, Tiffin; W. B. Williamson, Kenton; A. B. Baltzly, A. Wagner, F. Dieringer. F. W. Biesi, E. Gierach, H. Lohmann, J. Rascher, A. D. Well, A. C. Eichborn, Cincinnati; E. C. Lieblein, Cleveland, W. M. Bloss, Cerredo, W. Va.

Twenty-two candidates failed to pass a satisfactory examination The next examination will be held on Monday, May 10, in this city.

MICHIGAN BOARD OF PHARMACY.

The above board held a meeting for the examination of candidates for registration, at Grand Rapids, March 2; 56 candidates were present; of these 37 passed a satisfactory examination: Wm. E. Belsher, Saginaw; Robert Zoeller, Bay City; Alphous Schober, Detroit; L. Wilson, Kalamazoo; Edward C. Mott, Detroit; John L Judson, Grand Rapids; John Conrad, Mt. Pleasant; Elbert L. Gallinger, Cadillac; Wm. E. Hunt. Cairo; Fred A. Cochrane, Charlevoix; Chas. Wagner, Detroit; Thos. H. Mills, Port Huron; Richard W. Trotter, Orion, Theo. Kemink, Grand Rapids; Chas. Gustavus, Detroit; Robt. W. Hazeltine, Grand Rapids; Daniel J. Gahan, Detroit; Clyde S. Demorest, Detroit; D. A. Harrison, Kalamazoo; E. G. Heumann, Bay City; E C. Haefner, Jackson; Hiram Arthur, Kalamazoo; H. W. Booth, West Branch; John Kilgallin, Jackson; Hos-

mer P. Beebe, Eaton Rapids; John D. Muir, Grand Rapids; John W. Webb, Grand Rapids; John T. Owen, Jackson; Frank Willett, Petersburg; G. W. Harrison, Lansing; Hugo Leweaux, Ludington; John M. Perry, Cadillac; Levi Jones, Coldwater; Alton F. Otis, Manchester; Edward M. Hovey, Luther; J. W. Bullock, Alba, Lapeer county; Frank Powell, Clifford.

A PHARMACEUTICAL SYMPOSIUM.

The formal opening of the new quarters of the Detroit Pharmaceutical Society in the Cowie block took place on the evening of January 30, when an audience, comprising almost the total membership of the society, assembled to hear Prof. A. B Prescott, dean of the chemical department of the State University, lecture on the subject of "The Literature of Pharmacy." In opening his address the lecturer stated that the helpfulness of any professional body for the benefit of its members is justly measured by the value of the literature it has created for the professional use. He dwelt at length on the usefulness of a library to the pharmacist, and gave a list of the representative professional publications and the especial fields covered by them, closing his address by stating that the literature of pharmacy foreshadows some changes in the scope of its practice. It gives evidence that the pharmacist is to be an advisory and analytical chemist of the community and of the medical profession.

At the conclusion of the lecture refreshments were served in the parlor adjoining the audience room.

CHICAGO COLLEGE OF PHARMACY ALUMNI.

The annual meeting of the Alumni Association of the Chicago College of Pharmacy was held at the Palmer House the night succeeding the last named commencement exercises. A banquet was given in honor of the graduating class. and many toasts were responded to. The following were chosen as officers for the ensuing year: E. K. McPherson, President; E. E. Day, 1st Vice-President; Wm. A. Puchner, 2d Vice-President; Arthur A. Winter, Secretary; R. E. Rhode, Treasurer.

NEW YORK DEUTSCHER APOTHEKER VEREIN.

At the regular annual meeting held Feb. 11, the following were elected officers for the ensuing year: President, Adolph Tscheppe; Vice-Presidents, S. J. Bendiner, Karl Schur; Recording Secretary, Ludwig Ruprecht; Corresponding Secretary, Albert S. Bischof; Treasurer, Theodore Louis; Librarian, Paul Balluff; Executive Committee, Karl Becker, F. Burghof, Bernard Amend; Science Committee, S. J. Bendiner, K. Schluessner, G. Pfingsten, G. Muller, W. Bayrhoff; Business Committee, A. Bischof, K. Schur, C. Kessler; Delegates to the A. P. A and N. Y. State Association, S. J. Bendiner, H. J. Menninger, Ch. Rice, H. Schmidt, C. Eimer.

MINNESOTA P. A.

The annual meeting of the Minnesota State Pharmaceutical Association will be held in Minneapolis June 9, 1886. President—S. W. Melendy; Local Secretary—Jos R. Hoffiin, both of Minneapolis.

W. S. GETTY, Secretary.

ST. PAUL, MINN., March 7, 1886.

ILLINOIS BOARD OF PHARMACY

The Board met in Chicago on Feb 23, all members being present. Forty six candidates presented themselves for examination, out of which eight only were successful, as follows: R. R. Bowen, Hyde Park; Emil Fischel, Chas. H. Howe, H. K. Hibben, F. G. Mason, P. F. Schafer, Henry T. Decker, Chicago; Geo. Parke, South Evanston.

The board adjourned to meet in Chicago at the Grand Pacific Hotel the second Tuesday in April next.

C. W. DAY, Secretary.

CALIFORNIA COLLEGE OF PHARMACY.

The next annual session opens on Monday, April 5. and continues until about the end of September, the lecture hours being Monday, 7:30 P. M., materia medica, and at 8:30, pharmacy to the junior class. The juniors receive their botany instruction on Thursdays at 11:30 A. M., and their chemistry on Friday, at 7:30 P. M. The senior class attend botany instruction 11:30 A. M.; chemistry at 7:30 P. M., and at 8:30 materia medica on Tuesdays, and their pharmacy on Friday, at 8:30 P. M.

ALBANY COLLEGE OF PHARMACY.

The Albany College of Pharmacy celebrated its annual commencement March 1.

The names of the graduates are: Henry J. Barringer, Jr., Hudson, N. Y.: J. Miles Cummings, Fabius, N. Y.; Harry B. Duryee, Schenectady, N. Y.; Charles U. Gilbert, Albany, N. Y.; Henry A. Kerste, Schenectady, N. Y.; Oscar M. Meyers, Rochester, N. Y.; Herman Pareira, Albany, N. Y.; Charles M. Rogers, Pittsfield, Mass.; Charles F. Stewart, Utica, N. Y.; Harry M. Sweet, Cohoes, N. Y. The first prize of $25 was awarded to Henry J. Barringer, the second prize of $20 to Charles M. Gilbert. A prize of $25 to the best junior student was awarded to Edward J. Simpson, Buffalo, N. Y.

ST. LOUIS COLLEGE OF PHARMACY ALUMNI.

The Alumni Association held their annual meeting in the college Feb. 16. President W. C. Bolm gave an address reviewing the work of the past year, and suggesting that next winter the association give a course of lectures during the time of the winter session. The report of the treasurer gave a balance on hand of $181.69. The election resulted as follows: President, W. C. Bolm; Vice-Presidents, Dr. C. Ludeking, R. H. Smiley; Recording Secretary, H. M. Whelpley; Corresponding Secretary, F. F. Witting; Treasurer, C. Gietner; Registrar, Dr. E. O. Treutler; Executive Committee, O. F. Heitmeyer, L. Schrenck, F. Hemm, T. Klipstein, J. W. Tomfohrde, T. A. Buckland.

NEW JERSEY BOARD OF PHARMACY.

The following gentlemen, graduates in pharmacy, were registered by the New Jersey Board at its Newark meeting on Feb, 18: A. Lincoln Serfass, James E. Kirk The following were granted certificates by examination: Adolp Zscheile, Hoboken, D. B. Van Wagenen, Closter Henry L Buswell, Hackensack, Harry Ward Sutton, Camden.

The next meeting will be held in Newark March 18, 1886.

MASSACHUSETTS BOARD OF PHARMACY.

At the January meeting of the board the following persons were registered by examination: Frederick T. Evans, Somerville, Fred A. Eldred, Springfield; Daniel J. Pendergast, Charles O. Thompson, Boston. At the February meeting: Frederick T. Drake, Springfield; Edwin A. Mellish, Worcester; Frank A. Thorn, Brattleboro, Vt.; Isaac P. Ware, Marlboro. The next meeting will be held at Springfield, March 25.

ANNUAL MEETING OF THE C. C. P.

The following officers and members of the Board of Trustees were elected for the ensuing year at the anuual meeting of the Chicago College of Pharmacy on Tuesday, March 9: Henry W. Fuller, President; Wm. Bodemann, and Judson S. Jacobus, Vice-Presidents; Fred. M. Schmidt, Secretary; Thos. Whitfield, Treasurer; Trustees for one year: D. H. Galloway, E. K. McPherson, Henry Biroth, Aug. Jacobson, A. E. Ebert. Trustees to fill unexpired terms until next semi-annual meeting: Bodo Uhlendorf, R. Rhode.

The meeting adjourned to Tuesday, March 16.

Examination Questions of the Philadelphia College of Pharmacy.

Following are the final examination questions for the session just closed. We must defer a report of the commencement exercises to our next issue:

MATERIA MEDICA.

A—1. From what plants is Bryonia Root obtained? 2. Give their natural order and habitat. 3. Describe the drug, including its structure. 4. State its medical properties and dose. 5. What other drugs are obtained from the same natural order? 6. Give the medical properties and dose of each.

B.—1. Name the plant yielding Pink-root. 2. Give the natural order and habitat of the plant. 3. Describe the drug, including its structure. 4. Name the principal constituents. 5. Give its medical properties, dose, and effects of an overdose. 6. What other article is sometimes sold for the officinal pink-root, and how may it be distinguished from the latter? 7. In what manner does Serpentaria differ, physically, from pinkroot?

C.—1. What is Butternut bark? 2. Name the plant, its natural order and habitat. 3 When should the drug be collected? 4. Describe the drug, including its structure. 5. Name its principal constituents. 6. Give the medical properties and dose. 7. State the effect of continued boiling upon the virtue of the drug.

D.—1. What is Jaborandi? 2. Name the plant, its natural order and habitat. 3. Describe the drug. 4. Give its medical properties and dose. 5. Name an officinal salt prepared from Jaborandi. 6. State the dose of the salt, and some of its characteristics. 7. How may the leaves of Laurus nobilis be distinguished from Jaborandi?

E.—1. What is American wormseed? 2. Name the plant from which it is procured. 3. Give the natural order and habitat of the plant. 4. Describe the drug. 5. Give its medical properties and dose. 6. Also the officinal name, characteristics and dose of its active principle. 7. How may American wormseed be distinguished from Levant wormseed?

F.—1 What is the botanical name of the Almond tree? 2. Its natural order and habitat. 3. Describe the seeds, including their structure. 4. State the difference in the appearance of the two varieties of almond. 5. Name the constituents found in both varieties, and give the proporion of that constituent obtained by expression. 6. Which variety yields a volatile principle, and in what proportion? 7. How is this volatile principle produced? 8. What is its chemical nature. 9. What compound is formed from it on exposure to air?

G.—1. What is Mace? 2. Give the botanical name of the plant. 3. Its natural order and habitat. 4. Describe the drug. 5. Give its medical properties and its constituents. 6. What is nutmeg? 7 Give the proportion of its important constituents, and the characters of the volatile principle.

H.—1. Name some of the plants yielding Aloes, giving their habitat, and the commercial varieties of aloes yielded by each. 2. How is aloes prepared? 3. Which variety is officinal? 4. Describe the officinal aloes, and state the effects of solvents, and what impurities are frequently present. 5. How do other varieties differ from it? 6. Give a process for preparing aloin.

I.—1. In what tissue is the juice contained which yields Opium? 2. How is opium prepared? 3. Describe the officinal opium. 4. State how Persian opium differs from it. 5. How may the following adulterations be detected: starch, gum, extracts? 6. What is the morphine strength of pharmacopœial opium? 7. Give characteristic tests for the following constituents: Morphine, codeine, meconic acid.

K.—1. Give the name, class and habitat of the Muskdeer. 2. Describe the musk-bag, and its location on the animal. 3. Give the characteristics of good musk. 4. State how adulterations may be detected. 5. How may the odor of musk be removed? 6. Give the medical properties and dose of musk.

CHEMISTRY.

A.—1. What are the several processes now in use for manufacturing commercial Carbonate of Sodium? 2. Give an outline of each. 3. What are the side products in each case?

B.—1. What is the officinal name and chemical formula of Epsom Salt? 2. What is the officinal name and chemical formula of Glauber's salt? 3 State the difference in physical properties between the two. 4 What chemical tests would serve to distinguish between them. 5 How can you distinguish between Zinci Sulphas and Epsom Salt?

C.—1. Describe the metal Lead. 2. Mention the technical uses of the metal and its alloys. 3. Mention the salts of Lead that are used in pharmacy, and those that are used in technical applications. 4. Give the chemical formulas of three officinal compounds of Lead.

D.—1. Give the chemical names and formulas of Hydrargyri Chloridum Mite, Hydrargyri Chloridum Corrosivum and Hydrargyrum Ammoniatum. 2. State the points of difference between them, and the tests for each, and means of separating them when all are present in a mixture.

E.—1. What tests are characteristic for Bismuth salts? 2. Write the chemical formulas of the normal nitrate and the subnitrate. 3. State how each is produced, 4. Give the formula of the subcarbonate, and state how it is produced.

F—1. What is the general composition of the natural fats? 2. What compounds predominate in the solid fats? 3. And what in the liquid fats? 4. Write the chemical reaction for the decomposition of the fats by superheated steam. 5. Write the reaction for the formation of soda soap. 6. Write the reaction for the formation of lead plaster.

G.—1. Give the chemical formula of Acidum Aceticum, and two officinal acetates. 2. Of Acidum Oxalicum, and two officinal oxalates. 3. Of Acidum Tartaricum, and two officinal tartrates. 4. Of Acidum Citricum, and two officinal citrates.

H.—1. Define the class of changes known as fermentations, and state what organic compounds are specially subject to them. 2. Enumerate the several varieties of fermentation, and state the products in each case. 3. Write the chemical reactions expressing the changes that take place in these cases.

I.—1. Give the chemical formulas of Acidum Benzoicum, Acidum Salicylicum and Acidum Gallicum. 2. What chemical relationship exists between these three acids? 3. State the sources, both natural and artificial, of these several acids.

K.—1. What is a Glucoside? 2. What is an Alkaloid? 3. What differences are there in the chemical constitution of the two classes? 4. What analytical tests will show the difference between the two classes?

THEORY AND PRACTICE OF PHARMACY.

A—1. Name the three officinal liquids for which processes are given in the Pharmacopœia, which have identical specific gravities. 2. How many advoirdupois pounds are contained in a wine-gallon of either of them? 3. Give the outlines of the method of preparing each.

B.—Give the unabbreviated officinal names, ingredients, outlines of processes, and describe the appearance of the following: Soap Liniment, Syrup of Lactophosphate of Calcium, Honey of Rose, Diachylon Ointment, Blistering Cerate, Strengthening Plaster, Aromatic Spirit of Ammonia, Neutral Mixture.

C.—Give the English names, ingredients, outlines of processes, and describe the appearance of the following: In-

fusum Sennæ Compositum, Liquor Potassii Arsenitis, Pulvis Morphinæ Compositus, Syrupus Senegæ, Tinctura Benzoini Composita, Liquor Plumbi Subacetatis, Pilulæ Ferri Iodidi, Massa Ferri Carbonatis.

D.—Give the officinal name, with the ingredients and quantities to make one pint of Fluid Extract of Veratrum Viride and Tincture of Opium.

E.—What is Glucose? How does it differ from commercial Grape Sugar? Give its chemical formula. How is Glucose made commercially? What are its principal uses? Give a distinguishing test for it.

F.—Give the manufacturing processes, specific gravity, tests of identity, and purity of Glycerin, Commercial Chloroform, and Nitrite of Amyl.

G.—Give the reasons for the following: 1. In the preparation of officinal tincture of Chloride of Iron, why is it directed that the mixture of solution of Chloride of Iron and Alcohol shall stand in closely covered vessels for three months before being used? 2. Why is test solution of Nitrate of Barium directed to be used in testing officinal Honey? 3. Why is Water of Ammonia added to the liquids used in making the following preparations: Pure Extract of Glycyrrhiza, Fluid Extract of Senega, Washed Sulphur. 4. Why is Calumba directed to have the specia degree of fineness of powder known as number twenty in the officinal formulas, for its liquid preparations, instead of the usual degree of fineness of powder directed for other drugs? 5. Why is diluted Hydrochloric Acid directed in the officinal liquid preparations of Conium?

H.—1. Define incompatibility in its pharmaceutical relations, as applied to extemporaneous solutions. 2. Is incompatibility ever intentional on the part of the prescriber? Illustrate by example. 3. When should an extemporaneous solution ordered by a physician be filtered, and under what circumstances is it improper to filter such a solution? 4. Is it important to observe any particular order in mixing the ingredients in certain liquid prescriptions? If so, illustrate by an example.

I.—1. What is the physical property that is possessed by Cacao Butter that makes the best basis for suppositories? 2. Describe the process of making rolled suppositories by hand. 3. What advantage have moulded suppositories over those made by rolling?

K.—1. State briefly the essential physical requirements of a good pill mass. 2. Under what circumstances does a pill cylinder sometimes split or crumble when rolled? 3. How may a pill cylinder, which is known to be liable to split or crumble, be manipulated (without additions of any kind) so as to avoid such a mishap? 4. State the kind of medicinal substances with which it would be proper to use the following pill excipients: Water, Syrup, Glucose, Confection of Rose, Glycerin, Soap. 5. Describe briefly the processes for coating pills with gold or silver leaf, sugar and gelatin.

[The "Questions of the Committee" will appear in our next]

The chief of the cut-rate patent medicine men in Philadelphia has come to grief. This thrifty dealer, Totten by name, found that more money could be made on spurious than on genuine goods, and consequently chose to deal in the former. He was caught by Dr. David Kennedy selling some spurious stuff as his "Favorite Remedy," as a result of which Mr. Totten was induced to obliterate his sense of modesty and sign the following choice certificate to his own character:

PHILADELPHIA, Pa., Aug. 4, 1885.—For and in consideration of Dr. David Kennedy not subjecting me to any legal measures for selling bogus Favorite Remedy, having found the medicine in my hand, I do hereby agree never to purchase any more of Dr. Kennedy's Favorite Remedy from Albert T. Fetter, or any questionable persons offering said medicine for sale; but will purchase only of reliable wholesale houses, and that I will destroy all of said bogus Favorite Remedy in my store at this time, nor will I be guilty of refilling empty favorite Remedy bottles or collude with others to that end.

A fund is being raised by the local druggists to give the widest publicity to the fraud, the detection and exposure of which are largely due to Mr. M. N. Kline.

OHIO LETTER.

(Editor of the Western Druggist.)

It seems to be an admitted fact that we must always look for men of energy in the temperate zone, and Chicago people seem to imagine that it is found in a more concentrated degree in their city than elsewhere. We have no objection to its general acceptance, but when it applies to druggists, we will beg you to transfer it to Cincinnati.

As general and prescription business is not rushing, and prospects for an improvement in this direction are only in the period of anticipation, while waiting for its realization Satan, as usual, has found something for idle hands to do, and all of our energies and talents are engaged in a grand patent-medicine war.

Drugstore windows and fronts are rep'ete with glaring advertisements, apprising the suffering public that the druggist's conscience has lost its accustomed elasticity, and, in reparation for past sins, all drugs will be sold below cost. They will soon tire of this, and, as heretofore, sweet peace will spread her wings.

To prevent these upheavals in our midst we organized in November, 1882, the Cincinnati Druggists' Association the object of which was to endeavor to unite the druggists of this city more closely socially, to endeavor by arbitration to adjust all difficulties, and establish uniform prices for goods.

It has in a great measure fulfilled its mission, but, like every society of its kind, its Judas will make himself known, as one of its most highly esteemed members proved himself to be, at whose feet lies the accusation of causing the present two-edged conflict. The society is attempting to right everything as soon as possible, and it is hoped everything will be amicably adjusted.

The present officers of this association are: President—R. H. Weatherhead; Secretary—Geo. W. Voss.

The pride of the druggists of Cincinnati, the Cincinnati College of Pharmacy, is in a flourishing condition, financially and otherwise, and it is now looking for larger and more congenial quarters of its own. The facilities of the college have been increased, its faculty is composed of gentlemen of great ability and energy, and its curriculum is surpassed by that of any other college in the land. Its commencement exercises will be held about the middle of March, when quite a large class will graduate. Cincinnati is proud of the reputation in which her graduates of pharmacy are universally held, and feels satisfied that no young men are better able to wield the pestle or adorn their profession with intelligence and erudition.

The last of the organizers of the college has been called to his final home. Full of years and honors, Prof. E. S. Wayne died. Although he will not again be seen in our midst, his labors will bless us till time shall be no more. The other charter members of the college were Prof. W. B. Chapman and Prof. A. Fennel.

The vacancy caused in the State Examining Board by the death of Prof. Wayne has been filled by the appointment of Mr. John Weyer, of Cincinnati. Gov. Foraker could not have appointed a gentleman better able to fill all the requirements of the position, as he is a hard and conscientious student, and a man of great natural ability.

The pharmacy law of this State is giving general satisfaction, and meets the commendation of every druggist who has the elevation of the standard of his profession at heart. The examinations are rigid, but fair. At the last meeting of the board in this city ninety-one applicants were examined from all parts of the State, as well as from Indiana and Kentucky. CINCINNATUS.

CINCINNATI, March 1, 1886.

Notes and News.

Hartman, Laist & Co., Cincinnati, are succeeded by Laist & Hochstetter.

The druggists of Missouri are inquiring what their State pharmacy law amounts to.

Tennessee will organize a State Pharmaceutical Association at Knoxville May 12 and 13.

Hazeltine & Perkins, Grand Rapids, Mich., have become the Hazeltine & Perkins Drug Company.

We learn that Virginia now has a State Pharmacy Law. We regret our inability to furnish the text in this issue.

Dr. Joseph Lee, of Havelock, Iowa, was fined $50 and costs on complaint of the Commission of Pharmacy for conducting a pharmacy without being registered.

Messrs. E. R. Beckwith & Co. have purchased the pharmacy of Joseph Carr, Petersburg, Va. Mr. Beckwith is Secretary of the Virginia Pharmaceutical Association.

Mr. Robt. T. Hoyt, a member of the firm of W. D. Hoyt & Co., wholesale druggists, of Rome, Ga., committed suicide recently by shooting himself in the right temple.

The new law of Indiana limiting telephone charges, the validity of which was contested by the companies, has been declared constitutional by the Supreme Court of that State.

"Technics" is the title of a new medical journal published at 51 Union Park, Boston. It is comprehensive in scope, well edited, and strikingly original in its typography.

The Texas Pharmaceutical Association will meet at Dallas on April 27. Applications for space in the commercial exhibit should be addressed to E. A. Eisenlohr, Dallas.

The Missouri Board of Pharmacy will examine applicants for registration in Missouri on the first Monday of April next. M. W. Alexander, of St. Louis, is the secretary of the Board.

The theory adopted by Pasteur in his treatment of hydrophobia was acted on as early as 1846 by Dr. Alban S. Payne (Virginia Medical Monthly, March, 1878) in the treatment of small-pox.

In our list of members present at the Iowa State Pharmaceutical Association several names were incorrectly given, among them B. Franken, of Sigourney, who has our apologies for appearing as "B. Tewsbury."

Now that spring is about here and the earth ready to reveal her treasures in field and garden, it seems an appropriate time for the N. R. D. A. to formulate a "policy" of some kind—anything will do for a beginning.

Dr. R. J. Brown, of Leavenworth, Kan., has been appointed by the Board of Regents of the University at Lawrence a member of the Board of Examiners of the School of Pharmacy connected with the University of Kansas.

Quinine pills are said to be the rage among Philadelphia exquisites who ascribe to its use "wonderful sprightliness in your limbs, you know, and a glow all though your system." Philadelphia evidently believes in native remedies.

We observe it is recommended that the frequently reported shortage on corks, as sold by the gross, may be avoided by buying them by weight. This proposed innovation, recommended by the Illinois Committee on Adulteration, would seem to be quite feasible. Cork manufacturers would no doubt adopt a change which would place all goods on a level and free the trade from the odium of "short count."

James Crosher was recently arrested in New York, according to a press report, for selling a "bogus liquid as genuine patent medicine." This offense is like selling bogus damnation for the genuine article, and Satan alone protests.

An itinerant physician, known as "Dr. J. O. Walters," who has been "practicing" quite extensively in Wisconsin, Illinois, Indiana and Michigan, was recently arrested at the instance of the Illinois Board of Health for practicing without a license.

Prof. Dr. Friedrich Roloff, Medical Privy Councilor and Director of the Royal Veterinary College at Berlin since 1878, died the 22d of December. He was a member of the Imperial Board of Health and chief of the veterinary department of that bureau.

In consequence of the severe loss suffered by Clay W. Holmes & Co., of Elmira, N. Y., the firm decided not to resume the wholesale drug business, though Mr. Holmes announces that he will continue the manufacture of fluid extracts and other pharmaceutical preparations.

The discovery has been made in Columbia of a shrub (Medical Abstract) which exudes a juice having so powerful an effect in arresting the flow of blood that large veins may be cut by a knife and smeared with it without causing hemorrhage. The plant is called "aliza" by the natives.

According to a St. Louis authority, "Chicago is ahead of any other city in the world in the line of bogus industries." The authority has been so contaminated by proximity to native industries of this kind that its opinions are reliable, if at all, only when it stands on its head and thinks reversely.

M. P., Princeton, Wis., there is nothing in the State Pharmacy Act of Wisconsin or any other statute prohibiting a physician from compounding medicines intended for his patients. The Pharmacy Act, however, does not permit his compounding the prescriptions of another physician, or conducting a drugstore.

To make paper as tough as wood or leather chloride of zinc is mixed with the pulp in the course of manufacture. It has been found that the greater the degree of concentration of the zinc solution, the greater will be the toughness of the paper. It can be used for making boxes, combs, for roofing purposes, and even for making boots.

A young lady at Bingen, suffering from a slight inflammation of the throat, was killed through her own carelessness in not looking at the directions for the use of the drug prescribed for her. She swallowed a large dose of chlorate of potassium which was prescribed for gargling purposes and died a few hours later, after terrible suffering.

A fatal dose of quinine sulphate is reported by a French army surgeon. A corporal was given a tin cupful of quinine sulphate solution in mistake for solution of sodium sulphate, and a similar dose was taken by the attendant. The amount taken by each was about 180 grains. In about half an hour buzzings in the ears commenced in one case and stomach cramps and vomiting in the other. Emetics were administered, and free vomiting excited. Strong

fusions of coffee were given; cold water was applied to the head and mustard to the chest. In a second fainting fit, which occurred about two hours after taking the quinine, one died suddenly. The corporal completely recovered after a week in the hospital.

The Iowa Pharmaceutical Association has elected Dr. Mary Rosa Upson its permanent secretary. The lady has rare qualifications for the office. The incumbent of that office in the Louisiana association is also a lady. The gallantry of pharmacists is well exemplified in these unusual tributes to the gentler sex.

The officials of the custom house sometimes make mistakes in their rendering of the tariff, and almost always in such cases look through the wrong end of the spy-glass. Recently W. H. Schieffelin & Co. received a verdict in their favor, which refunded them $4,000 for extra duties charged them on soap which they had imported.

Papers of practical interest at our State pharmaceutical associations are fully appreciated. The paper of John S. Dunn read at the last meeting of the Michigan Pharmaceutical Association, on the subject of "Poison Labels with Antidotes," first published in this journal for November, has gone the rounds of the pharmacal press in this country and Europe.

The doubts which the Western Druggist expressed as to cocaine having been the cause of the symptoms in Dr. B.'s case, have been fully justified by the subsequent history of the case. A week after the discontinuance of the cocaine the symptoms persisted, and the doctor left the Washingtonian Home in a clandestine way, clearly characteristic of insanity.

A process for producing metallic printing plates has been patented by Mr. Cesar Felix Josz, of Bockenheim, Germany. It consists in first mechanically graining the plates, then extracting all grease by alkalies, and opening or raising the grains by means of astringents operating mechanically, and giving the metallic surface the affinity for ink, lithographic, crayon, etc.

Oscar Loew, Ph. D., the special correspondent of the Western Druggist at Munich, Germany, recently contributed an article, which has attracted much attention, to the physiological section of the British Association meeting, in Aberdeen, on a "Chemical Difference between Living and Dead Protoplasm." We presented the paper in abstract in our "Botany and Microscopy" columns last month.

Our ingenious friend Prof. Wall, of St. Louis, in casting about for props for the metric system has discovered that nature in her omniscient wisdom has set an example to man by building him upon the decimal scale—vide his ten-fingered and ten-toed arrangement. The ten-eyed professor must have embraced himself with all his ten arms while he danced a ten-footed whirl over this idea.

Messrs. Benton, Myers & Co., of Cleveland, have informed Secretary Hopp, of the Ohio Pharmaceutical Association, that they will present a prize to the authors of the best two papers read in answer to queries at the next meeting of the Association—the first prize to consist of any scale in Troemner's list not exceeding $25 in value, and the second prize a B. M. & E. Combination Suppository Mould worth $7.50; the Committee of Award to consist of three members appointed by the President.

Mr. G. J. Seabury desires to state, in answer to many correspondents referring to his coming book on "Pharmacy and its Institution Throughout the World," that he is in the possession of nearly all the matter, and that most of his foreign contributors, eminent in pharmacy, are having heir articles translated. In the meatime amendments are pending to the pharmacy laws of France, the poison laws of Great Britain, and also those of the United States. The changes conspire to induce him to make haste slowly, in order that the work, when issued, may be complete. To the work will be added all State and local pharmacy laws and the duties of each local or State pharmacy board. The second volume will be entitled "Shall Pharmacists Become Tradesmen?"

The cod liver oil production in Norway may be estimated from a report that in the Loffoden district 17,000,000 fish were caught, and in Finmarken 15,000,000; in the rest of Nordland, 7,500,000. A great deal of oil was manufactured, and prices being low at the commencement of the season, a very large quantity was disposed of in the year. Little remained on hand, and prices rose. According to an exchange, Holland and Germany take usually a large quantity of dark-colored oil, which is used for tanning purposes.

Representative Caswell, of Wisconsin, has introduced a bill providing for the taxation of oleomargarine in the same manner in which whisky and tobacco are taxed. The object of the proposed measure is not to obtain additional revenue for the government, but to suppress the traffic in oleomargarine by a heavy tax and the requirement of a government stamp that would always expose the true character of the article.

The Chicago Pharmacist, the organ of the College of Pharmacy of that city, and the Western Druggist, a Chicago periodical in its seventh volume, have been amalgamated under the title of the latter. These journals have heretofore been among the most valued of our exchanges, and should the good features of both be combined and continued, the resulting publication cannot fail to prove a great success.—Canadian Phar. Jour.

According to an exchange the Treasury Department holds that certain so-called smelling salts, consisting of mono-carbonate of ammonia slightly perfumed, are dutiable at the rate of 20 per cent. ad valorem as "carbonate of ammonia," and not at the rate of 50 per cent. ad valorem as a "toilet preparation," as assessed by the Collector of Customs at New York. What a hard blow to Anglomaniac pharmacists who must handle the imported high-priced "Preston salts" to know that it is classed as common "ammonmur."

The firm of John D. Park & Sons, wholesale druggists Cincinnati, have come under the ban of the contract plan, and President Kline of the N. W. D. A. is out in a ringing letter counseling a solid front in defense of the plan, and calling on all jobbers to refuse supplies of rebate goods to the ostracised firm. Whatever the merits or demerits of the plan, its integrity clearly demanded this summary action. A firm who enters into a specific agreement with the intention of breaking it whenever it is profitable to do so, has no rights which the other party is bound tc respect.

Governer Sherman, of Iowa, says in his annual message: "Whether or not the pharmacy law needs amendment in order to the better protection of the people, will be for you to determine. Good has already been accom plished, in that specially-educated persons are compounding our medicines, and we are safer from the danger of fatal mistakes, which, despite the utmost care, will sometimes occur. The commission is made up of men who are brave enough to enforce the law, however rigid it may be, and we all agree too much care is impossible. Especially do I call your attention to the facts stated by the commissioners in the report relative to the procuring of liquor

'permits.' These opinions are shared by the entire profession in the State, and largely, also, by others who have studied the subject, and as such are entitled to careful consideration at your hands."

Mr. H. Sugden Evans, a widely-known pharmacist, formerly prominently connected with the wholesale drug trade of Montreal, Canada, a member of the American Pharmaceutical Association and of the British Pharmaceutical Conference, died of pneumonia in St. Elizabeth Hospital, New York, while on a visit to that city. At the time of his death he was government analyst at Ottawa.

THE Lowell, Mass., pill firm of J. C. Ayer & Co. have made an offer of settlement for the government's claim on account of the irregularities in connection with the importations of the firm's medicines into Canada. The government, however, insists upon the payment of $146,000 this being the full amount of discrepancy in the value of the medicines imported during the past three years, discovered by an examination of the firm's books.

An important invention, said by engineers to promise to completely revolutionize the present system of gas-lighting, has just been perfected by Dr. Auer in the chemical laboratory of the Vienna University. It is said to consist in rendering a cotton wick incombustible by impregnating it with a solution of metallic salt. Thus treated, the wick, instead of burning, merely glows, emitting a radiance not unlike that of the electric light. The whole process is very simple, and the great advantage of the invention is that it may be applied to any gas-burner.

An intense cold, estimated at —225° C, that is 225° below the zero of the Centigrade thermometer, has been produced by Olszewski. The gas, which is the subject of experiment, is inclosed in the innermost of three concentric tubes, the two outer spaces being filled with liquid oxygen, and the whole surrounded by liquid ethylene. By the very low temperature thus obtained, this chemist has thus liquified and solidified nitrogen, carbonic oxide, methane, and nitric oxide. By the evaporation of solid nitrogen under a pressnre of 4 mm., a temperature as low as —225° C. was actually obtained.

Recently Dr. J. H. Gleason, a well-known physician, entered a drugstore in Cleveland, Ohio, to get his evening drink of whisky. Two graduates sat on the prescription case, one containing an ounce of carbolic acid and the other whisky. Dr. Gleason drank the acid, and a moment after the drug clerk shouted, "Run for a doctor; I've killed Dr. Gleason." "Keep cool," said Dr. Gleason, who at once began to take antidotes. The doctor suffered no pain. Ten minutes after taking the poison he fell limp to the floor, and with a groan and an awful struggle expired. His dead body was borne to his residence, from which he had been absent an hour only.—Ex.

MR. M. N. KLINE explained in a recent letter "how cutters in Philadelphia obtain their supplies of patent medicines so as to undersell their neighbors." The favorite method, as pursued by a party named Totten and a "friend" called Fetter, is to procure a supply of bottles and fill them with a preparation resembling the genuine, then write to the manufacturers of simulated goods, representing that the original wrappers had by some accident been damaged so as to make them unsalable, and requesting a supply of new wrappers, which request had been, as a rule, complied with until the trick became known. There is now a "fetter" on Mr. Totten's practices which he does not appear to relish.

KANSAS NOTES.

The Legislature has made provision for perpetuating the chair of pharmacy at the State University. The chair has been heretofore dependent on the State Board of Pharmacy for its maintenance. Prof. L. E. Sayre is popular alike with students and the profession. The Examining Board (comprised of druggists from all parts of the State) will examine students of the Pharmacy Department about March 18. All proposed changes in the State pharmacy law failed at the recent session of the Legislature. Many unsatisfactory clauses that rankle in the hearts of pharmacists must remain unchanged for another year. The liquor law is also unchanged.

WISCONSIN NOTES.

Trade has opened fair for 1886 and the prospects are good.—The State Pharmacy Law, now in operation for a period of four years, seems to be working satisfactorily in all sections.—F. L. Marden, formerly of Kenosha, has purchased an interest in the store of P. A. Griffith, Beaver Dam, and removed to that point.—Dr. J. E. Wilson, a veteran druggist of twenty years' experience in Wisconsin and Ohio, died at his home at Madison recently.—The Board of Pharmacy held an examination at Milwaukee January 20 and 21; twenty-seven appeared for examination, of which number seven received certificates as licentiates and three "minors;" rejected, 17. The names of the successful candidates are: Ed. Rauber, Milwaukee; Geo. Baldauf, Milwaukee; A. F. McMahon, Thorp; Max J. Goetz, Milwaukee; W. H. Aldrich, Onalaska; F. J. Gober, Durand; Emma J. Seaman, Necedah. Minors: F. I. Pinch, Hillsboro; S. L. Smith, Arkansas; Tho. Oleson, Grantsburg. The next meeting for examination will be held at Madison, Wednesday, April 14.—The Fond du Lac druggists are beginning to make arrangements for the meeting of the State Association which will meet there in August. Fond du Lac has an enterprising lot of druggists and they propose to make the meeting of 1886 a success.

PHILADELPHIA DRUG EXCHANGE.

The Philadelphia Drug Exchange held its twenty-fifth annual meeting recently. About 125 members were present, and H. C. McIlvain, the retiring president, presided. The annual report, read by Secretary William Gullager, referred to actions taken by the Exchange at its meetings during the year, and said that the trade had contributed $710 to the Plymouth (Pa.) sufferers, $912.85 to the Grant memorial fund, and $330 to the deficiency fund, making a total of $1,952.85. Affixed to the report was the statement hat the Exchange had completed the quarter centennial of its existence. In a brief history which followed, these firms and individuals were named as having signed the call for the organization of the Exchange: Peter T. Wright & Co., Robert Shoemaker & Co., George K. Smith & Co., John P. Wetherill, William M. Wilson, French, Richards & Co., John L. O'Neal, A F. Hazard & Co., John C. Baker & Co., T. Morris Perot & Co., Geo. H. Ashton, Daniel L. Miller, Jr., and John W. Maris & Co. These were the first officers and directors: President—John M. Maris; Vice-President—Thomas P. James; Secretary—James Palmer; Treasurer—Henry S. Ziegler.

Edward G. Hance, the treasurer, reported a balance on hand of $143.38.

The new officers and directors elected are: President—C. B. Linn; Vice-President—R. V. Mattison; Treasurer—E. H. Hance; Secretary—William Gullager; Directors—Alexander C. Jones, H. B. Rosengarten, H. C. McIlvain, H. N. Rittenhouse, William J. Jenks, M. N. Kline, J. Fergusson, N. K. Pergrin.

THE WESTERN DRUGGIST.

VOL. VIII. No. 4. APRIL 15, 1886. Subscription Price, $1.00 per annum. G. P. ENGELHARD & CO., Chicago.

THE DRUGGIST'S STANDING IN SOCIETY.

BY OTTO SCHNURRER, BROOKLYN, N. Y.

"The apothecary shall make sweet confections, and shall make up ointments of health, and of his works there shall be no end."

From our favorite sign in front of the drug store we have been elegantly styled the "Knights of the Mortar and Pestle," but the above motto, selected from the text of a respectable ancient dispensatory, points out better than anything else the true scope and character of our business; which is no other than the preparing and dispensing of external and internal remedies "in endless variety" for the restoration of the health of the human body. But the scope and character of a business is exactly what determines its dignity and position in the scale of the social fabric. If an individual takes his rank inside of his profession according to the degree of skill, knowledge, luck and success he may have attained among his brethren, a whole class or profession will take its rank in society according to the relation it sustains in its general scope and character to either the ideal or the material order of things; in which the extent of the preparatory training, or the degree of skill and scientific attainments necessary for entering upon the performance of professional functions, is but a secondary consideration scarcely affecting the fundamental division of society. This is evident from the fact that the humblest of agricultural or mechanical pursuits is generally admitted to be more honorable than certain flashy occupations that may require a great deal of preparatory training, together with much skill and mental effort to practice them. Hence it is that the farmer or the mechanic, from a social point of view, stands above the circus rider, the professional athlete, or the lion-tamer, though individually he may be his inferior.

In a like manner and for a similar reason does the medical profession outrank some other professions of a higher scientific order. For it is well known that Medicine is of all the sciences the most empirical, the most changeable, and the least reliable, which, for some of its principal departments, such as Etiology and Therapeutics, seems to be doomed forever to move in a circle of doctrinal probabilities and assumptions with the ever-recurring "post hoc ergo propter hoc" fallacy; and of which a cursory knowledge may be acquired, in this country at least, by attending a few academical sessions, sufficient to admit its devotees to practice without any preliminary classical or scientific education, without even a strict knowledge of medical orthography or the possession of a decent penmanship. And yet does this Medicine take precedence in society before such high branches of applied mathematics as Astronomy, Engineering and some others are, that require a mental discipline and an intellectual capacity of the first order. And rightfully does it take such precedence, because *it is a nobler task to cure a disease or to save a human life than to discover a new comet, to calculate the distance of a star from its parallax, or to build a railroad across the Isthmus of Tehuantepec.* In other words, the social position of a profession depends less on its scientific quality than on its scope and character with reference to the ideal order of things. This will be even more manifest from the consideration of the following facts. It has been customary with all the nations of ancient and modern civilization, from the Chaldeans, Hebrews, Egyptians, Greeks and Romans, down to all the Christian peoples until the time of the great French Revolution, to accord the first rank in society to their spiritual leaders, notably the priests, or all such as were officially intrusted with the care of the religious and moral interests of the people. The social position of the priest has always been considered equal if not superior to that of the statesman or political leader, who in turn was believed to stand above the warrior, the warrior above the artisan and tradesman, the tradesman above the farmer and laborer. Hence did the Pagan Emperors of Rome assume to themselves the title of "Pontifax Maximus," as the Czar of Russia pretends to be the head of the orthodox Greek Church, and Queen Victoria the supreme bishop of the Anglican establishment, while the Pope in Rome, according to Catholic belief, continues to outrank in social position all the other ecclesiastical and political dignitaries upon earth. And at the principal seats of learning even to the present day, wherever they have not yielded to atheistic and Nihilistic tendencies, will the theological faculty of a university lead all the rest; not because it claims a higher intellectual training than the faculties of Science, Law, or Medicine, but because it is supposed to stand in a closer relation to the ideal order of things than any other does.

If in modern times, and especially in Protestant countries, such as the United States and Great Britain are, or in infidel countries such as France now is, the power once wielded by the priesthood or the clergy has, to a great measure, passed over into the hands of the laymen, who now use it through the press, for good or for evil, to such an extent as to make even kings, presidents, senators, legislators, judges, and other high dignitaries bow down before its majesty as they once bowed down before the high priests and the Popes; the same underlying principle is still recognizable in the fact that those laymen who thus profess to work for the highest ideal good (be it a true or a false one) are admitted to be worthy of the greatest con-

sideration and of the most prominent position in society. The distinction, therefore, between an ideal and a material order of things, together with the scope that any particular profession has with reference to the one or the other of those orders, seems to be the only true principle on which a correct classification of society can be established. For, if it were not so, suppose there existed the material order only, in which the mind would be taken to *be but a compound function of the body.* In this case, the ideal order being eliminated, we should have to consider the different vocations of life as merely so many different methods of gaining a livelihood or of making money. The professions and trades would then all sink down to the common level of being but the parallel tracks laid out on the race ground of a short material existence for the accumulation of an ever-vanishing fortune. There could be no distinction any more of classes, but only of individuals. The body politic would lose its organic character, and be dissolved into a mere aggregation of atomic particles; and the only social distinction could be that of a greater or less personal success, measured by the greater or less amount of dollars gained or lost. This, to a certain extent, would seem to be the doctrine prevailing in the democratic countries of the present day, and it cannot be denied that many of our own druggists, physicians and people in general are wont to look upon their profession and business in such a light. Hence the extraordinary social phenomena manifesting themselves of late and multiplying on every side; the giant struggle between labor and capital breaking out along the whole line; the strange intermingling of incompatible business branches such as selling dry goods, groceries and medicines from the same stand—or of mixing drugs, liquors, hot and cold drinks at the same counter; the cutting, underselling, bragging and quacking nuisance so frequently complained of; the patent medicine trouble; the percentage bargains between doctors and druggists, and the consequent boycotting of honest apothecaries that wish to remain faithful to the code of ethics enjoined upon them when at college; last and not least, the difficulty of organizing the trades and professions on a solid basis and with the proper "esprit du corps," into strong and honorable unions such as the ancient guilds, brotherhoods and orders used to be. And though the materialized fractions of society may succeed for a while to concentrate their scattering forces by pooling together into protective rings, professional associations, money corporations, profit partnerships, trade unions, interstate alliances, knighthoods of labor, and other combinations with striking, boycotting and retaliating measures, yet, *lacking the true ideal cement,* they will soon split again upon the rock of selfishness and extreme individualism so characteristic of a certain wide-spread theory which define life and business to be but a relentless "struggle for existence," terminating in a short "survival of the fittest."

Or, again, if we eliminate the ideal order and thus throw away the only life preserver that keeps us from sinking to the bottom of everlasting Protoplasma, we may yet, while sinking, have the satisfaction of distinguishing individuals on a more scientific principle than the mere business success expressed in dollars and cents could be, namely, the "scintillations of a phosphorescent brain." Phosphorus, scintillating in the brains of our social leaders, would not be a bad substitute for the gold and silver gobbled up in their coffers, and quite to the taste of our Communist reformers, who would as lief see it scintillate abundantly in high places and hear the sweet bimetallic clang come farther down to their own midst as not. But then we would stand before a new problem, more difficult to solve than all the metaphysical and religious problems objected to in the superstitious faith of our fathers were. We should have to ask ourselves how it is that the said brain-phosphorus scintillates in one man commercially, pharmaceutically in another, medically in a third, technically in a fourth, politically in a fifth, morally in a sixth, immorally in a seventh, and so forth, ad absurdum. And granting that some scientific crank could solve the problem to his own satisfaction, our logic tells us that a phosphorescent community would be the graveyard of society and civilization. What further use could there be of doctors and apothecaries prescribing and making "sweet confections and fragrant ointments of health," if life and health were put at a discount; or of lawyers distinguishing between right and wrong, if virtue and vice were but a superstition; or of anybody following any honorable pursuit, if honor and honesty were but the excrescences of a morbid brain? A butcher's knife, a headsman's ax, a poison shop, a dynamite factory and a cremation furnace would suffice to keep the phosphorescent brain machinery agoing, and to regulate the body politic emerging from the dark underswell of self-generating protoplasma. Then away with churches, hospitals and poor-houses, with asylums, benevolent institutions and the homes for the aged! Away with the doctors, druggists and Sisters of Charity! Down with the halls of legislation, science and art! Dispatch the sick, the cripple, the infirm, the weak and the helpless, gently if it can be, forcibly if it must be! Drown the children of Israel in the stagnant pools of Egypt; cast your offspring into the fiery bosom of Moloch; burn your widows on the funeral pile of Shiva; expose your orphans and your aged parents to starvation on the Indian mound! Let the wheel of Juggernaut crush the imbecile that cannot struggle any longer against the black decrees of Fate, and make room for the strong, the healthy, and the vigorous, so that the bloody thug of India, the cannibal man and woman of Dahomey may step in and have full sway! This is what society must come to where the mind is degraded to a compound function of the body, or ideas to scintillations of a phosphorescent brain. It represents the highest state of evolution, right above the monkey order, that naked materialism will ever be able to realize, provided it is allowed to have its own way and does not first plunge back into the pit of everlasting protoplasm, from which it pretends to have arisen.

It is sad to know that some eminent biologists, physicians and pharmacists have advocated these pernicious doctrines, and, outraging science, the noble handmaid of religion, by a reckless exercise of self-assumed infallibility, give vent to their destructive scintillations, not only through scientific journals, but also with little tact and less good taste at professional meetings or even at social gatherings, as if they had already monopolized the

whole dominion of knowledge, human and divine. Away from it! and back to the ideal order of things, in which alone society can exist, in which alone a fitting place and honorable position can be found for the druggist, as well as for the physician, or any other man of sense, reason and education!

If we admit what cannot be denied, namely, that the ideal must preside over the material order of things, and that the former is the true fountain of life for the latter, and its principle of organization, we can have no difficulty in finding out what the druggist's standing in society is and must be. As the scope of his business does not directly reach the ideal order, but aims at a material object, namely, the restoration of bodily health by the preparing and dispensing of medicine in endless variety, it is evident that his profession *does not stand in the front ranks of society*, which, as we have seen, must be concerned directly in the care of the religious, moral and intellectual interests of the commonwealth. Everybody knows which profession belongs to that noble sphere, the clergy, the educational, legislative and judiciary departments of government; to a certain extent, also, the executive branches, especially those which are intrusted with the maintenance of peace, law, and order; in a supplementary way, therefore, all the officers of the army and navy, together with the knights of the pen and press, so far as they have enlisted under the glorious banner of truth, justice and righteousness. All these, whether they realize the idea of their high mission fully or partly, or not at all, constitute the highest orders of society, and may, without a further analysis or subdivision of their classes, be called the brain and nerve power of society, presiding over and moving all the other members of the body politic. Neither the pharmacist nor the physician can compare to them in the dignity and excellence of his professional occupation, for their activity, considered separately or jointly, does not extend beyond the welfare of the human body, and is, therefore, essentially material according to the old rule: "Sotentiæ specificantur et diversificantur per objecta." But in this material sphere they stand at the head of all the other professions and classes of society, and right at the line where the material touches the ideal order of things. They are, as it were, the lungs, liver and kidneys of the social economy, while all the remaining professions and trades make up the bone and sinew, the limbs and members, the flesh and skin of the body politic.

As health is but the full and normal development of life in its different stages, or the unimpaired condition of all the vital functions of the body, and as life without health is but the forerunner of death, interfering with the private as well as the public welfare, and crippling the highest as well as the lowest classes of society, it follows that the twin sisters of Medicine and Pharmacy in their professional efforts to preserve and restore health wherever it is in jeopardy, occupy a very important position in the pale of society, radiating, as it were, from its center in a kind of ubiquitous diffusion toward the circumference, participating to a certain extent in the honors and prerogatives of the higher classes, as well as in the toil and homeliness of the lower ones.

The lower classes that are outranked by the medical and pharmaceutical professions may be said to be all those which are likewise concerned in the prosecution of material objects, but objects of a minor importance than health is. Such are those of the lawyer contending for the possession of property; the engineer constructing our roads and bridges, or working our mines; the architect building our houses; the astronomer computing our almanacs; the geologist exploring the interior of the earth; the navigator sailing across the seas; the merchant dealing in all sorts of commodities; the manufacturer and mechanic making them; the farmer raising the staff of life; the butcher and baker dispensing it; the tailor decking our body with clothes; the artist and musician delighting our eyes and ears with their performances; and many others too numerous to mention.

Having thus located the druggist's profession, by an unimpeachable rule, in the social scale, it cannot be our purpose to go into a minute classification or subdivision of the professions standing either above or below him. But cases of competition for an equality or superiority of rank may present themselves, in which the respective claims are the same, or so very nearly the same that a distinction cannot be made without the application of an additional or secondary principle of division. One of these principles, and certainly one of great importance, by which not only individuals of the same class but also rival classes competing for superiority may be distinguished from one another, is the amount of scientific preparation requisite for entering upon the exercise of the professional functions. Thus, a question of superiority may arise between the astronomer and geologist. Now either of these professions has a material scope and a scientific character. The one explores the heavens, the other the interior of the earth. But heaven and earth are both material substances of the same scientific inportance and interest, while the practical results of the investigation regarding their usefulness for the general good cannot be said to differ much. The question of superiority must, therefore, be decided by the greater amount of scientific preparation necessary for following either the one or the other pursuit, which, in this case, would be in favor of astronomy. Again, there are scientific farmers, land barons and owners of plantations that raise the staff of life on rational principles, and have enjoyed a scientific education at some agricultural college, embracing chemistry, certain branches of botany, and other studies. Such a one may set up a claim of equality with or superiority over the druggist; and as the providing for the staff of life which belongs to the one, and the preparing of the staff of health which belongs to the other, are closely allied, and the scientific attainments on either side nearly the same, it might be difficult to decide the question; which in case of the ordinary farmer-by-rote has already been decided in favor of the druggist by virtue of his superior learning. So may the lawyer compete with the physician. If he is engaged in the prosecution of civil cases, involving questions of property only, he is the inferior of the doctor; but if in criminal cases, involving questions of life and liberty, and the higher one of public morality, he is decidedly his superior.

Finally, the medical and pharmaceutical professions, so far as they have the same general scope and character, are co-ordinate branches of the same department; but as far as each one has also a distinctive character of its own, the one will thereby

become more or less subordinate to the other, which relation may be made the subject of a special investigation. But all the different professions and classes of society, from the highest to the lowest, considered separately or jointly, are raised from the dust of the earth to a state of glorification imparted to them by the *ideal scope and character that belongs to the whole social organism*, and without which it would not be worth while living in any condition or pursuing any profession whatever.

NEW DIALYZERS.

Two new forms of apparatus for dialyzation are described by Dr. F. W. Dafert, in the Chemiker Zeitung (Mar. 14, '86).

Figure 1 illustrates an apparatus used with uniformly good results where a continuous process is

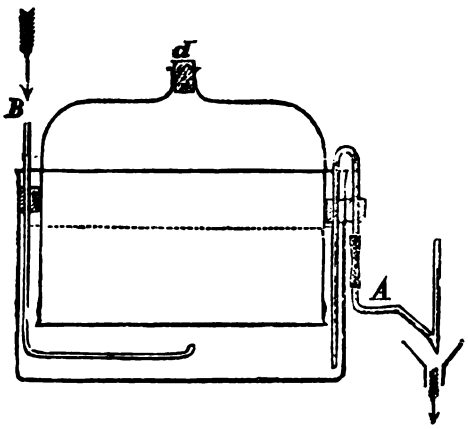


FIG. 1.

FIG. 2.

desired. Its principle is based upon the continuous removal of the diffusate, the height of the liquid in the dialyzer being regulated by the height to which the tube A is raised. At *B*, water is admitted which again finds an exit at the point *c*; at *d* the solution can be tested from time to time, and, by stopping the flow at *B*, the process is suspended.

Figure 2 shows a dialyzer for very volatile liquids, such as ether, etc. At *a* and *b* the dialyzate can be tested when desired; animal membrane is here used as the septum, a piece of sheep's bladder being attached to the additional tube which passes through the cork. The tube *b* must be bent upward at its lower end, so as not to impede by contact with the membrane. When paper is used as the septum, a bell glass with a suitable neck may be substituted for the tube and bladder. Simplicity of construction is the advantage claimed for both apparatus.

UNTOWARD EFFECTS OF BELLADONNA.

BY JAS. G. KIERNAN, M. D., CHICAGO, ILL.

In a certain class of cases blame is not unfrequently incurred by both physicians and pharmacists from the unexpected results of prescriptions containing belladonna. It has been my fortune to witness belladonna poisoning in seven instances, in which the drug was administered to aid the effects of laxatives and cathartics. In the first instance, a menstruating constipated woman, was given 1-20 of a grain of the extract of belladonna and three hours thereafter manifested all the toxic effects of the drug. This case I referred at the time to some defect in dispensing the drug. In a second case the use of a still smaller dose had precisely the same effect, but, as the extract used had been kept a long time, the toxic effects were referred to this cause. In a third case the same results followed the reduction of the quantity of the extract used to one-thirtieth of a grain. I, in consequence, abandoned the use of the extract of belladonna but in three cases, one, a lady physician who administered the drug herself, I saw the same effects follow upon the use of three drops of the tincture. In a fourth case I was able to trace the poisoning by three drops of belladonna tincture to a peculiar condition of the woman to whom it was administered—when she was constipated and menstruating three drops of the drug would produce the physiological effects which twenty drops would not under ordinary circumstances. As all the other six cases had been constipated and menstruating, it was obvious that their physical condition predisposed them to the effects of the drug. It is well to record such facts because there is no saying when under the present furore for making fortunes by litigation, they may not become of value from a pharmaceutico-legal standpoint.

ADONIDIN.

This glucoside is prepared (Dr. Huchard, Paris, Archives de Pharmacie) by macerating the plant (Adonis vernalis) for ten days in hydrated alcohol (alcohol 1 part, water 2 parts). The resulting tincture is precipitated by lead subacetate. It is then filtered and condensed and treated with tannin and a few drops of ammonia, which produces adonidin tannate, which is then washed with water and decomposed with zinc oxide and alcohol. Adonidin results in an impure state, and is purified by successive crystallizations in alcoholized ether. It is a bitter-tasting, amorphous, clear yellow powder, insoluble in ether or chloroform, slightly soluble in water, most soluble in alcohol. Muriatic acid colors it gray, nitric acid yellow, sulphuric acid red. Every part of the plant contains it. Ten kilograms of the plant yield two grams of adonidin. It has all the advantages of digitalis, without its cumulative action.

GERMANIUM is the name bestowed upon a new element—Ge—by Winkler, discovered by him in argyrodit, an ore mined at Frieberg, Germany. It is reduced with difficulty, and obtained under hydrogen, and, as it is not permanent in the air, must be kept in tubes hermetically sealed.

PATENT MEDICINES.

BY C. S. HALLBERG.

III.

In our last we mentioned the several agents which directly or indirectly favored the use of patent medicines by the public. Of these the most potent by far is the press, concededly a powerful instrument for good or evil and for moulding public opinion, capricious on ethical questions, and not infrequently sadly misinformed upon technical subjects, especially with reference to medicine. But with all its enormous power it is itself swayed by the spirit of commercialism. Upon topics of general public interest or comprehension, it is quick to respond to the popular chord, or to raise issues and thus secure a following. But it must have something tangible in view to reflect popular condition or opinion, or to suggest their improvement. To it the subject of patent medicines, if a subject for consideration at all, is an exceedingly abstract one, that is, from a social standpoint; while on the other hand the industry which it has created is so very profitable that it is a very important source of revenue. In addition to this, journalists without distinction share the popular prejudice toward matters medical, prejudices which partake more of skepticism so deep-rooted in the minds of all classes of the laity with reference to medicine. While this science has advanced during the last half hundred years from mysticism and quacksalvery to the foremost of our liberal scientific professions, and with it pharmacy has kept well in the front, the healing art to-day with the public means what it did fifty years ago. The more enlightened have read of Lister and Koch and Pasteur, and would probably concede the latter to be quite as distinguished as "Safe Warner." They have read of the discovery of cocaine and possibly some have used it; they have found that petroleum has taken the place of lard and that the price of quinine has come down since the tariff has been abolished, but this is about all. For the rest, they leave it to the doctor and Providence, or to Warner, Hood, Pierce, and a strong constitution. As to pharmacy as a science they know absolutely nothing; they know that it is a business requiring skill and care, but nothing as to its professional requirements or objects. The splendid rhetoric and gushing "testimonials" of a patent medicine vendor in the daily press is regarded as the *ultima thule* of scientific medicine. The learned paragraphs snatched bodily by "Duffy" from the work of one of the world's most learned physiologists is construed as being a recommendation of a double-distilled stimulant. Supported by analysis as to its purity by a certain "Buffalo chemist, now lecturing to the learned societies in Germany," the public is impressed with awe and reverence for this wonderful panacea, not knowing that the alleged eminent chemist's reputation in this country is hardly worth a tin whistle. But it is tactics like these which make these men's names "household words." What newspaper man doesn't know Ayer, Jayne, Schenck, Warner, et al. But who of them know of Parrish or Proctor or Squibb, each of whom compared to the former is as a conquering giant to a stuffed figure in a show window. Painstaking, hard-working, earnest laborers in the cause of humanity, in the race of human progress and improvement, every act of theirs has been in the interest of their fellow men. Their names will be honored long after the pseudo-philanthropists have ceased to pose in the public prints.

Under these conditions it would naturally be exceedingly discouraging to awaken any interest in the subject of patent medicines among the journalistic profession. Sharing the prejudices of the laity toward medicine on the one hand and subject to the common weakness of money-making on the other, the expediency of their assuming a position upon this question, is decidedly problematic.

With a desire, however, to get an expression of opinion, the following questions were transmitted to several leading journalists in the United States:

"(1) Are clergymen, physicians, chemists, journalists and other professional men of influence whose names are usually the means of lending respectability to these nostrums, justified in indorsing preparations the constituents of which are kept a secret, and the medicinal effect of which, immediate or remote, they do not know?

"(2) Are the public prints justified in circulating advertisements which to ordinary intelligence bear the impress of fraudulent or criminal intent, or which make claims known to be false, or advertisements obscene or criminally suggestive, or otherwise violating recognized precepts of health or morals?

"(3) Should the Federal Government or the States prohibit the sale or advertisement of nostrums, the formulas of which are not contained on the labels?

"(4) Should the sale of nostrums containing opium, abortifacient or other destructive drugs, be permitted by law."

Among those to whom the above was sent was the editor of a daily paper in Chicago claiming the largest circulation in the United States, who recently expressed himself in defending his action in a certain matter substantially to the effect that the aim of his paper had always been to give the news and to tell the truth, to exercise judicial fairness in dealing with every man, to expose wrong-doings and to condemn wrong-doers, that neither wealth nor station should give immunity from just criticism, and "to resolutely hold aloof from all entanglements which could forbid the expression of an honest opinion *upon every case affecting the public weal.*" (italics ours). This newspaper, which boasts that it visits every English speaking household in Chicago, has for a length of time contained the following advertisement:

ADVICE TO MOTHERS.—Mrs. Winslow's Soothing Syrup should always be used for children teething. It soothes the child, softens the gums, allays all pain, cures wind colic, and is the best remedy for diarrhœa. Twenty-five cents a bottle.

Awaiting an answer we shall leave the editor to reflect over his anomalous position, trusting in the meanwhile he will consult the health commissioner, with reference to the advice (?) in his columns.

The editor of another great newspaper kindly sent the following answer without, however, replying to the above interrogatories:

The Sun, N. Y.:—I have your favor, and have read the article in the WESTERN DRUGGIST. It is an interesting subject no doubt, but this article (W. D., Feb.) seems to me exceedingly vague and accordingly of little value. If anything is to be done it is necessary to present specific charges and show that the so-called proprietary medicines

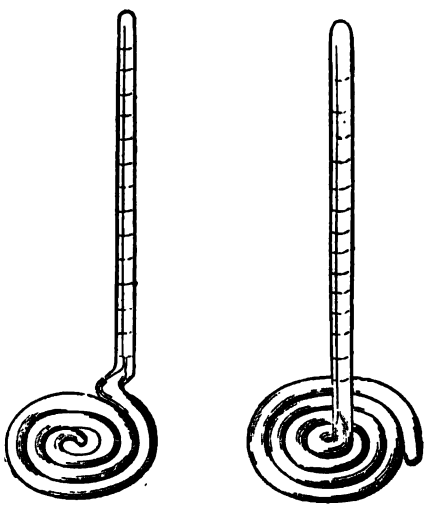
are noxious, composed of bad or improper ingredients and sure to do harm rather than good. General denunciation can have but little effect. *Chas. A. Dana.*

From the tenor of the communication we are more than confirmed in the views just outlined. The press is silent, it is just to assume, mainly because it is in ignorance of the true state of affairs. While the celestial body over whose destiny the great editor presides, seems to be undergoing a partial eclipse, yet a stray ray of sunshine is offered in the suggestion that charges be made. As to "specific charges" we have not yet reached that stage of the subject, but we can assure our journalistic friends that of these there is no lack.

A NEW FORM OF THERMOMETER.

BY CHARLES RICE.

Some years ago, while making a series of experiments involving the taking of the temperature of a small volume of liquid contained in small capsules or beakers, I found it impossible to obtain reliable results with the usual long stem thermometers, and I experienced great difficulty in obtaining a trustworthy thermometer with very short stem, so as to permit at least the larger portion of the mercurial column of the whole bulb to



be immersed in the liquid. It occurred to me then, that for the purpose above mentioned, as well as for many other uses, a modification of the shape and position of the bulb of the thermometer would be a useful improvement. Thermometers in which the bulb consists of a coil of tubing filled with mercury have long been in use for ordinary and domestic purposes. It only remained to give another direction to the stem so that it would stand upright when the coil was placed on a flat surface. A considerable number of these thermometers (not graduated) were made by the manufacturer at that time, to be kept in stock for future use, and to allow them to season. One of them, now three years old, has recently been graduated for me, and the graduation examined by the Thermometric Bureau of the Observatory of Yale College. The differences from true temperature, ascertained for each separate degree, are quite small, and not more than are to be found in all good thermometers. It fulfills all the conditions it was designed for, though a still further improvement is in contemplation, namely, to cause the stem to arise from the center of the coil, instead of from the outside, which will diminish the diameter of the coil. The thermometer graduated for me has a stem of six inches in length, and a coil of two inches in diameter. It is graduated from 32° to 120° F. The thermometers of this shape, thus far made, are not intended for temperatures beyond about 125° F., though they could be made to run as high as others should there be any demand for them. The fact that they will stand upright of their own accord makes them very useful in many operations. Accompanying this paper is an illustration of the thermometer. The manufacturer is Guiseppe Tagliabue, of New York.—American Druggist.

ADULTERATION OF LARD.—Lard is occasionally subjected to scandalous adulterations. It contains not infrequently a large quantity (25 to 30 per cent.) of starch, 10 to 20 per cent. water, 2 to 3 per cent. alum, and about 1 per cent. lime have been found in lard. Mere inspection will not determine the presence of water, for it is united in such a way that the lard is white and odorless; but if heated in a pan it soon begins to sputter, while pure lard melts quietly and without formation of bubbles. If lard is melted in a test-tube over an alcohol flame (Rundschau, Prag.), pure unadulterated lard yields a clear, transparent, faintly yellowish fluid; poorly cleaned lard shows floating fibers of meat or shreds of connective tissue, while mechanically suspended mineral substances, added to increase the weight, fall to the bottom. To determine the percentage of water, weigh 50 grams of lard in a tared beaker-glass, and place for one or two hours in a water-bath. The water is separated gradually from the lard, and sinks to the bottom. On cooling, a hole is made through the lard, and the water allowed to flow out, when the loss of weight determines approximately the amount of water. The water is to be submitted to a further examination, for, in order to facilitate the mixture of the water and fat, soda (carbonate of sodium), potassa (carbonate of potassium) or lime is often used, which saponifies a small part of the fat, and the soap brings the fat into more intimate mixture with the water, when the fat would have an alkaline reaction. With lime as an adulterant, the water will yield a white precipitate on the addition of a few drops of solution of oxalate of ammonium. Lard, when viscid, fluid, ropy, or mixed with fibrous substances, is usually mixed with inferior fats. Lard is also often mixed with grease, when it is less white and of less uniform consistence, besides having a peculiar salty and disagreeable taste.

LACMOID is a substitute for litmus, and exceeds the latter not only in usefulness but is also equally satisfactory to phenol-phtalein as an indicator. It is produced by the action of sodium nitrate on resorcin. A solution is prepared by dissolving one-half gram lacmoid in 100 C.c. each of alcohol and water.

TEREBENE.

BY J. N. HURTY, INDIANAPOLIS.

For some forms of cough, terebene is certainly an excellent remedy. In England it has met with much favor, the demand having stimulated many chemists to supply it. There seems to be much complaint as to the quality of many of the brands found upon the market, and a kind known as Burgoyne's is recommended very highly. The following formula will furnish pure terebene:

Turpentine, recently rectified, 500 parts.
Sulphuric acid U. S. P. 25 "

To the turpentine, in a glass flask capable of holding twice the quantity, add the acid drop by drop, keeping the mixture cool by immersing the flask in cold water. This is important, for if the temperature be allowed to rise other products than terebene will be found.

Upon the addition of the acid, tar-like matter immediately forms, which readily subsides. After standing for twelve or fourteen hours, that the action of the acid on the oil may be more complete, the clear supernatant liquid is decanted and distilled. A glass retort and Liebig's condenser are all that is to be desired for the successful conduction of the distillation. Simply a retort will be found sufficient if it have a good long neck projected into a flask, for terebene has such a high boiling point that its vapor is readily condensed at the ordinary temperature.

Heat may be conveniently applied from a rose Bunsen burner, placed so that the flame will almost but not quite impinge upon the glass bulb of the retort.

Some few drops of distillate appear at 150 deg. C., gradually increasing until the mercury marks 160 deg., when no further rise takes place until all the terebene has passed over, and then a rapid rise occurs. When this takes place the distillation is discontinued, and in the retort is left a red-brown liquid of very complex composition. The impure terebene thus produced must be treated with 2 per cent. of its weight of sulphuric acid in exactly the same way as just detailed for the turpentine, and distilled a second time. Both distillates will be milky, because of a little water they contain, but the last only need have the water removed. This may be done by distilling from perfectly dry potassium carbonate.

Terebene thus made generally answers all the requirements laid down in the books, namely, optical inactivity, boiling point 160 deg. C., neutral reaction, soluble in alcohol and ether, sp. gr., 0.860 deg. If after twice treating with sulphuric acid and distilling three times the above requirements are not met, the product must be put through the same process until it does.

The precaution to use recently rectified turpentine oil must not be omitted, for an old article works very unsatisfactorily. For another reason, too, is it necessary to look sharply after the quality of the turpentine used, for, since the very philanthropic and virtuous Standard Oil Company obtained control of the turpentine market, it is very frequently found badly mixed with petroleum products of the same boiling point and specific gravity.

The keeping and dispensing of terebene is attended with no difficulties. Light and free access of air has not perceptibly affected a sample so exposed for two months.

As the topical action of this remedy is as much desired as the constitutional, administration upon loaf sugar or in lozenge form is obviously the best method of exhibition. Terebene may be emulsified as easily as turpentine, and in emulsion form can be mixed with opiates and expectorants, etc.

NEW REMEDIES.*

E. Merck, of Darmstadt, has compiled a list of the new preparations which have of late years found useful application, showing their most important characteristics and uses. Among these the following are the best known:

ASEPTOL ($C_6H_4HO.SO_2HO$), representing a 33⅓ per cent. solution of orthoxysulphophenol soluble in all proportions of water, alcohol and glycerin. Aseptol of the specific gravity of 1.555 has been known since 1841, but only recently has its antiseptic worth become known. It possesses the antiseptic properties of phenol and salicylic acid, but none of the irritating and toxic qualities of carbolic acid, nor is it destructive to delicate animal tissue, which permits its use in affections of the eye, a solution of 1 in 1000 still remaining effective. The internal administration of aseptol ranges in dose between that of carbolic and salicylic acid.

BENZOYLECGONIN ($C_9H_{14}NO_3—C_7H_5O$) is obtained as a by-product in the manufacture of cocaine. It is readily soluble in water, with difficulty soluble in alcohol, and insoluble in ether. The prismatic crystalline substance contains 4 molecules of water and fuses at from 90 to 92°; when methylated it is converted into cocaine (methyl-benzoylecgonin).

AVENIN (Oat-alkaloid)! a brownish colored powder having an aromatic, vanilla-like odor, soluble in 50 to 60 per cent. alcohol. It apparently belongs to the alkaloids, containing nitrogen and giving the general alkaloidal reactions. Its physiological action excites toward the motor centers of the nervous system, and, we take it, is the carrier of that motive force of the oats eaten by horses.

BISMUTH PEPTONAT, sicc. powder, contains in 100 parts 3.1 parts of bismuth or 3.5 parts oxide of bismuth in a soluble form. The bismuth in this preparation is believed to be in a rational form for medicinal application. As a remedy in dyspepsia and gastralgia it is applicable in doses of 5 grams two or three times a day.

BOLDINE.—An alkaloid obtained by Burgoyne and Verne in 1874 from the leaves of Boldoa fragrans, a bushy evergreen of Bolivia and Chili. It is soluble in alcohol, ether and acidulated water; on exposure to the light it is rapidly darkened in color, which is not wholly prevented by preservation in amber glass. Aside from its volatile oil the tonic effect of boldo leaves in several diseases is ascribed to boldine, which is also a hypnotic, a property possessed also by a glucoside which has been obtained from boldo leaves, but to what extent the medicinal properties of boldo leaves is attributable to the latter has not been definitely determined.

*Zeitschrift für Oester Apothek Ver, Jan. 20, 1886.

CAFFEIN, salts and double salts, have of late awakened considerable interest, owing to the widened range of the therapeutical application of caffein following the researches of Riegel concerning its use in place of the inconvenient and uncertain digitalis, and to the necessity for definite chemical combinations, the salts in use being of varying composition. The following siplele salts have been made: Caffeine benzoate, hydrobromate, hydrochlorate, nitrate, salicylate, sulphate, valerianate, citrate and tannate. Of the double salts the double benzoate of caffeine and sodium contains 45.8 per cent. of caffeine, the double cinnamate and salicylate contains 62.5 per cent. and the double hydrobromate 52 per cent. of caffeine.

The easily soluble double salts have greatly increased the application of the remedy by hypodermic means which is of great importance, as caffein thus administered acts rapidly upon the heart, a result often necessary. Caffeine has no accumulative action, and seldom any undesirable secondary effect. Its use is indicated in angina pectoris, asthma cardiale, and in the dropsy and albuminurea accompanying heart disease. The double salts of caffein have been found useful in the treatment of uræmia following scarlatina and also in pleuritis. In combination with digitalis good effects have been obtained in hopeless cases where either alone have ceased to act. Riegel administers 0.8 grams of the pure caffein gradually increased to 2 grams per day, according to which the dose of the salts may be easily regulated.

ICHTHYOL is a bituminous product obtained from a mineral found in the vicinity of Seefeld in Tyrol. Various sulphoichythyolates and sulphoichthyolic acid have been obtained. It has been highly recommended as a remedy in skin diseases and chronic rheumatism, its beneficial effect being due to the large amount of sulphur it contains as well as its ready solubility in water, and harmlessness. It is also used internally.

IODOFORM in *bacillis* is employed in the open fissures of wounds, bubo and fistula in gonorrhœa and other affections of the urethra and bladder, and also in puerperal affections of the uterus.

MENTHOL BENZOATED.—The steroptene of oil of peppermint, according to Macdonald, has about twice the antiseptic power of carbolic acid, a solution of 1 in 1000 still destroying the lower organisms. The rubefacient effect of the well-known menthol pencils is increased by the addition of benzoic acid.

POTASSIUM OSMATE ($K_2OsO_4+2H_2O$). The inconvenience attending the use of osmic acid, owing to its hygroscopic nature, has given rise to the employment of its sodium salt. It is a violet colored crystalline powder, soluble in water and used hypodermically in 1 per cent. solutions. In doses from 1 to 15 milligrams daily it has been administered internally in pill form, which might well be coated, as long continued use interferes with digestion.

KERATIN (Pepsino paratum).—Insoluble in the acid liquids of the stomach, but in the alkaline fluids of the intestines has become useful as a pill coating for such remedies as it is desired should pass the stomach undissolved, but still exert their influence further on, among which are arsenic, sugar of lead, nitrate of silver, phosphorus, anthelmintics, etc.

PHARMACY VS. PROFIT.

BY L. C. HOGAN, ENGLEWOOD, ILL.

Pharmacy is styled a profession, and is by some classed among the sciences, but in this country, at least, it has more of the commercial than professional character. Trade interests, or how to increase the daily sales, is of more moment to the average pharmacist, than is keeping pace with the latest researches in inorganic chemistry by the German and French theoretical pharmacists. The "bread and butter" side of the question is far more important than "ethics," or the "utopian theories" of ultra-scientific pharmacists. There is much of science connected with the calling of the pharmacist, which calls for higher attainments than does any strictly mercantile calling, while at the same time the opportunity for the use of these attainments is yearly becoming less. Pharmacy is fast losing its professional character, and becoming a mere trade, the large manufacturer possessing the science, and doing the work that ought largely to be done by the pharmacist proper, the pharmacist thus becoming the vendor of the manufacturer's products. This state of things the pharmacist is not responsible for to as great an extent as is the physician, who by prescribing nostrums, and ordering ready-made prescriptions, has forced the manufacturer's products upon the pharmacist. A decade or so ago the physician searched for a remedy or new combination to fit the disease, and the pharmacist prepared as he directed; now the manufacturer does both, and the physician has only to find a disease to suit the remedy. He often has to try several times, but when found he at once sends off a testimonial, and soon we have another patent medicine "indorsed by the faculty."

The tendency of the times is toward the centralization of business; the lines of demarkation between the mercantile trades are being rapidly effaced. The larger houses are absorbing the smaller ones. Drugstores are becoming more what their name would imply—storehouses for drugs, and the preparation of remedial agents. Drygoods stores are becoming general stores, where anything from a curry comb to a nursing bottle can be found. Book and stationery stores are following in the same lead. Grocery stores are including in their stocks much that formerly belonged to the pharmacist.

Thus we see, there is a revolution taking place in mercantile circles, and it behooves the druggist to be up and doing; more attention must be paid to the commercial end of the string, or the other branches of the trade will encroach still farther upon his domain. Another thing, a professional profit must not be asked for ordinary merchandise; the price must be let down on sundries, or the trade will be still further depleted.

Ethics are good in their place, but our business comes first, and how to strengthen our position, should be of interest to all. Some plan must be devised to check this wholesale departure of our business to other branches of trade.

The WESTERN DRUGGIST is indebted to Mr. John H. Dawson, of San Francisco for a pleasant call and valued information as to the status of pharmacy on the Pacific Coast. The druggists of the Golden State are preparing a draft for a State pharmacy law.

THE LITERATURE OF PHARMACY.

BY A. B. PRESCOTT, ANN ARBOR.

(Continued from Page 78, March No.)

No complete bibliography of pharmacy has been published by itself. Pharmacy ranks, like medicine, but more directly than medicine, as applied science. It is applied chemistry, and applied botany. Its literature is largely, in common with that of the science of chemistry, quite strongly allied to that of the science of botany, and vitally related to, but distinctly separate from, that of the profession of medicine. The fullest list of the periodicals of pharmacy is found within PROF. BOLTON'S "Catalogue of Scientific and Technical Periodicals, 1665 to 1882," published by the Smithsonian Institution. This invaluable production in bibliography gives, with subjective indexes, all periodicals in pure and in applied sciences, except the transactions and proceedings of societies. The exception is to be regretted. Thus it excludes the proceedings of the American Pharmaceutical Association, though it does not exclude the corresponding British Year-Book of Pharmacy; but the omission of society transactions was justified by the existence of the "Catalogue of Scientific Serials," by Mr. S. H. Scudder, published by Harvard University. Unfortunately this does not include publications in applied science, and we only find in it such pharmaceutical literature as takes the name of chemistry, and of botany, in primary or secondary titles. Prof. Bolton also issues, as a reprint from the New York Academy of Sciences, a "Catalogue of Chemical Periodicals," embracing 182 titles. Undoubtedly the nearest approach to that desirable aid, A Serial Index to Contributions in Pharmacy, corresponding to The Index Medicus, lies in the German Year-Book of Pharmacy, to be hereafter noticed.

Professor Bolton's larger catalogue indexes 154 periodicals in Pharmacy, and 31 under Pharmaceutical Chemistry, 185 in all that take the name of pharmacy. Besides there are great numbers of serials of chemistry, and of botany, with titles showing provision for pharmacy as a primary application—such as "The Chemical News, a journal of practical chemistry in all its applications to pharmacy, arts, and manufactures;" "Jahresbericht über die fortschritte der reinen, pharmaceutischen und technischen Chemie;" and journals of botany applied to pharmacy and other industries. As many as fifteen or sixteen nationalities are catalogued under Pharmacy. The German publications are much the most numerous; next the French, while the United States have a greater number than Great Britain. The number is everywhere greatly increased by the inclusion of fugitive issues, short-lived journals and annuals, calendars, etc., of which we find records from the last century to now, but these have meaning respecting the activity of the pharmaceutical spirit.

Of existing periodicals, among the oldest are the following: The "Journal der Pharmacie," conducted by J. B. Trommsdorff, at Leipzig, for 41 years, from 1793 to 1834, when it was united with the "Annalen der Pharmacy," instituted by Justus Liebig, with Brandes, and Geiger, in 1840, taking the title "Annalen der Chemie und Pharmacie." Since 1873 it is entitled, from its illustrious founder. "Liebig's Annalen der Chemie und Pharmacie." On the editorial staff of this serial have been engaged E. Merck, Frederick Mohr, H. H. Dumas at Paris and Graham at London, Wohler and Kopp, Erlenmeyer and Vollard, A. W. Hoffman and Kekule, and upon its indexes G. C. Wittstein. The complete set from 1793 to 1885 contains 285 volumes. There are three library indexes, of both subjects and authors, covering upon the three alphabetic lists all the matter from 1832 to 1872. Complete sets of this work are scarce, and still rising in value, but one of my colleagues a few years ago obtained the series from 1832 for about six hundred dollars. The Bavarian "Repertorium für Pharmacy" was established in 1815, and has been edited by Buchner, Landerer, Mohr, Pettenkofer, Winkler, and others. The present "Archiv der Pharmacie," published at Halle, and from which we see so many selections, has been continuous, under various titles, from 1821. The "Chemisches Centralblatt," of Leipzig, in large part pharmaceutical, is continuous with the "Pharmaceutisches Centralblatt," which began in 1830. In France, the present "Journal de Pharmacie et de Chimie," has been carried under changes of title from the founding of the "Bulletin de Pharmacie" in 1809. It is supplied with general indexes of authors and subjects. In 1825 the "Journal de Chimie Medicale, de Pharmacie et de Toxicologie," was founded in Paris, by Orfila and others, and the same periodical has now united with the "Repertoire de Pharmacie." In Russia there seems to have been decided activity in pharmaceutical literature in the early part of this century, and a good degree of strength at present.

Leaving the long established European periodicals, we find the "American Journal of Pharmacy," of Philadelphia, dating from 1827, with a general index from 1830 to 1850, and since with decennial indexes of authors and subjects. Sets are scarce, and held far above (five to eight times) the total subscription price. The "Druggists' Circular," of New York, has been a professional vehicle since 1857. "The Pharmacist" of Chicago dates from 1868, and has now joined the "WESTERN DRUGGIST." "The American Druggist" dates from 1871. There are several journals in the German in this country, Dr. Hoffman's "Rundschau" dating from 1883. It is easy to count a score or so of pharmaceutical periodicals in the United States. In England "The Pharmaceutical Journal and Transactions" was founded, at the birth of the Pharmaceutical Society of Great Britain, in 1841, by Jacob Bell of blessed memory. It is issued every week. "The Chemist and Druggist" of London, the leader in successful advertising, dates from 1865. The strength of these two publications no doubt affords an explanation of the shortness of the list of ephemeral periodicals in England.

No attempt is here made to name the ablest and most deserving existing periodicals in pharmacy. Only some of the oldest in their several countries have been mentioned.

There are three notable year-books of pharmacy. (1) The German "Jahresbericht über die Fortschritte der Pharmacognosie, Pharmacie, und Toxicologie," from 1841. It seems to have taken the place of the "Berlines Jahrbuch für Pharmacie" continued from 1796 to 1840. (2) The British

"Year-Book of Pharmacy," continued by the British Pharmaceutical Conference from 1865; and (3) our own "Proceedings of the American Pharmaceutical Association," from 1851, with two general indexes of subjects, covering the matter from 1860 to 1884. The German annual is a most comprehensive summary, giving carefully condensed abstracts of nearly everything published in pharmacy, and bibliographical lists of admirable completeness, with no original articles, and with full indexes of authors and subjects, in a volume of four to five hundred pages. The English year-book is made up of less condensed abstracts and representative selections. The American proceedings contain, with the original papers of the society, Mr. Diehl's admirable annual report of the progress of pharmacy, wider in range than the British year-book, but not undertaking quite so broad a range as the German year-book, and supplied with a good yearly index of subjects, not of authors.

None of these representative publications collect anything directly from the publications of the medical profession, but all of them necessarily gather a good deal from the publications of chemistry and of botany. The title of the oldest, the German annual, is not without meaning. In 1841 it took the title of Pharmacy and Pharmacology (the study of the physiological effects of drugs). In 1866, under the able charge of Dragendorff, it dropped the branch of pharmacology, and took the title of "Pharmacognosy (the natural history and chemistry of drugs), Pharmacy and Toxicology," a title still retained. Toxicology, the study of the evidences and preventions of poisoning, has greater inherent demands upon the pharmacist in his own profession than has Pharmacology, the study of the physiological actions of medicines. Both these subjects have a proper place in medical literature, where they are treated upon. But while pharmacology may be dropped altogether in pharmaceutical literature, toxicology must not be so abandoned.

Turning now for a moment to see how the separation of pharmacy from medicine is regarded in medical literature, we find that representative medical index, the Catalogue of the Library of the Surgeon General's Office, at Washington, destitute of the titles of the most prominent works in pharmacy. And the "Index Medicus," the most praiseworthy key to the current literature of all medicine, and which now owes so much to George S. Davis, gives index to only such pharmaceutical articles as are selected by, and in a few cases originate in, the medical publications. If physicians desire more pharmaceutical reading than can be put in the last corner, they must take a pharmaceutical journal. If pharmacists desire articles of medical interest, let them take medical periodicals. The trend of demarkation between these brotherly professions was indicated by the widely quoted remarks of Prof. Huxley a few years ago, when he advised medical students not to give much time to materia medica, meaning the natural history and chemistry of medicines, or pharmacognosy. And again last summer by the London Lancet, when it advised medical colleges to require enough general chemistry for entrance and drop it from their curricula. With this advice was given the acknowledgement that applied chemistry is the most pregnant and important science of the present age, with the plea that only that part properly entitled "medical chemistry" can receive justice at the hand of the physician. Nevertheless it is a wiser judgment that the essentials of pharmacognosy—that is, materia medica not therapeutics—can not be wholly left out of medical training without much loss to the physician. But a comparison of the literature of pharmacy with that of medicine clearly shows how different is the place of pharmacognosy and of chemistry in the life and growth of the two professions.

There is a common ground, however, in the official literature of the Pharmacopœias. According to Dr. J. M. Flint's inquiries in 1883, there were *nineteen* national Pharmacopœias in use, and *three* in preparation, these being employed in about *thirty-two* different countries. *Fifteen* were issued by authority of the government, and *four*, including our own, have only professional authority. The international Pharmacopœia issued for trial in 1885 is based upon *seventeen* national Pharmacopœias. It is, of course, designed to form a bond between existing Pharmacopœias, as its name implies, not to displace them. Pharmacopœias give great stimulus to pharmaceutical research and literature, but they gain little, quite too little attention in medical work and literature. In most countries they are made mainly by the pharmacists, in some countries by pharmacists but wholly under medical authority, and quite uniformly without disagreement between the one profession and the other. The imperfections of Pharmacopœias are conspicuous. Their infirmities arise from the numerous gaps in science which they reveal; sometimes from the unwieldiness of representative joint-authorship, and always from the difficulty of entire agreement in any professional public.

The commentaries upon Pharmacopœias, such as the Dispensatories and Companions in the United States, and the Commentar of Germany, in subject matter must treat upon pharmacology and therapeutics, as well as upon pharmacognosy and pharmaceutic operations,—but in fact they have their origin and their use in greater part among pharmaceutical workers. They are allied to the proper literature of pharmacy. And of this, it is manifest, that it is written and read by men in pharmaceutical pursuits.

The literature of pharmacy is by no means confined to the supply of medicines, though this must continue to be the most responsible portion of pharmaceutical practice. There are indispensable branches of applied science, other than the knowledge of medicines and their supply, the literature of which is found largely in pharmaceutical publications. For information on important parts of sanitary science, industrial chemistry, general analysis of materials, the qualities of food and water, and the technology of common life, we must needs go to the repositories of pharmaceutical literature. When the law against the adulteration of food went into effect in England a dozen years ago, and practical science was found in poor preparation for its duties, the best resources at hand were obtained of pharmaceutical authorities. Under the early operation of similar laws in our Eastern States at this time pharmacists are creating literature that must be had if the work is to be done. Of the four questions presented for discussion at the late pharmaceutical congress of all countries, by the

committee on organization, one was on sophistications of foods and the related legislative service, and one was on the best means for analysis of potable waters. And even in the analytical work of the profession of medicine, in its clinical practice, the authorities in pharmaceutical literature are certainly not less full and trustworthy than the medical authorities. Furthermore, a candid study of the literature of an applied science always reveals a relation of mutual dependence between applied and pure science. The demands of industry are needed to bring to attention the weak places in pure research, and to stimulate its efforts.

Evidently the literature of pharmacy foreshadows some changes in the scope of its practice. It gives evidence that the pharmacist is to be an advisory and analytical chemist of the community, and of the medical profession. However gradually and slowly it may come about, the fitness of things requires that much of the work of applied science in common life be given to the pharmacist. There are causes of delay, it is true. Applied science is new to the industries and households of the people,—this is one cause of delay. Pharmacists are not sufficiently in communication with their own literature, and not thoroughly enough trained in science, and in analysis,—this may become another cause of delay. Advances always go slowly—a common cause of delay. But in the history of pharmaceutical literature may be read the evidence that scientific commerce and technical practice are permanent opportunities of the apothecary. Also, that non-pharmaceutical business is but the temporary expedient; something that is "done in the meantime" to furnish support under the over-crowding of low standards; something without dishonor, yet without due compensation; something to be supplanted, and to drop away as the advertising pages of our periodicals drop away when the volumes are bound up for permanent service. In this consummation all the institutions of pharmacy will have reward.

SPARTEINE AND ITS SALTS.*

BY M. HOUDE, PHARMACIST, PARIS, FRANCE.

Sparteine is a volatile base discovered by Stenhouse in Spartius scoparius (Cystisus scoparius), a variety of broom plant, a little bush which grows in humid places, belonging to the leguminacea (Papilionacea). It has been studied by Gerhard and Mills, who have shown the formula to be $C^{15}H^{26}N^2$. The leaves and branches of Spartius Scoparius, after having been moderately powdered, are lixiviated in a displacement apparatus by 60 per cent. alcohol, until the resulting liquid does not give a precipitate with iodated potassium iodide. The resulting alcoholic solutions, mixed and filtered, are distilled at a moderate temperature. The residue is then taken up by a tartaric acid solution, which is then filtered to separate a brownish green jelly composed of chlorophyll and sparteine. The acid solution is rendered alkaline by potassium carbonate, and then agitated several times with five or six times its volume of ether, which carries off the totality of alkaloid. In order to purify the resulting product the ether is agitated with a new tartaric acid solution, which, neutralized, yields sparteine, the ethereal vehicle, and these maneuvers are repeated until a colorless ethereal liquid results. By simple evaporation of the latter, by aid of air and light, sparteine in a state of purity is obtained. A kilogram of the plant yields about three grams of the active principle. Sparteine is an alkaline, colorless liquid heavier than water, and boiling at 548 degrees F. It has a penetrating, pyridine-like odor, a very bitter taste, and browns on exposure to the air, thickening in consistency. It is soluble in alcohol, ether and chloroform, but insoluble in benzine and petroleum. It has a very alkaline reaction. If a glass containing muriatic acid and one containing sparteine be approached, dense whitish fumes result, showing sparteine to be an energetic base. Sparteine combines with acids to form very quickly crystallizable salts. With potassium and ammonium sparteine sulphate solutions yield a white precipitate, insoluble in an excess of the reagent. With cold soda bicarbonate solution no precipitate results, but with warm the liquid becomes turbid, and yields a whitish deposit. With the concentrated mineral acids no change occurs. Cadmium iodide gives with sparteine a whitish, curdy precipitate. Sodium phospho-molybdate yields a whitish precipitate, soluble when heated. The copper salts yield greenish precipitates. Platinum chloride gives a crystalline, yellowish precipitate.

*From Archives de Pharmacie, March 5, 1886.

According to M. Ordonnesu, the predominating flavor in Cognac brandy is due to normal butylic alcohol, which is present to the extent (Compt. Rend. CII, p. 217) of 218.60 grams per hectolitre. It appears to be produced by the saccharomyces ellipsoideus in grape juice, and the flavor may possibly be obtained by fermenting malt liquor with the former. The isobutylic alcohol appears to be a secondary product of fermentation with beer yeast. The substance next in importance, to which the bouquet is due, is a product of oxidation, terpene boiling at 178° C.

The British Year-Book of Pharmacy for 1885 has made its appearance. These annual series are to the Englishman what the Proceedings of the American Pharmaceutical Association are to the American. In plan, scope and object it is quite similar to our own, containing abstracts of the pharmaceutical literature of the previous year, as well as that read before the meeting of the British Pharmaceutical Association. Although the essays are as usual of good quality and interesting, we do not think they are as well classified as in the American publication, being inserted apparently indiscriminately. The after discussion of the papers and a complete list of new publications of any importance during the year are peculiar features. A casual perusal of the whole indicates certainly no superiority of English pharmaceutical work over American.

Editorial.

The practice of writing "cipher" prescriptions sometimes indulged in by physicians in collusion with their druggist occasionally takes an unexpected turn. Some time last month a correspondent sent us two prescriptions, in each of which an item, entirely unintelligible, appeared, with a request for interpretation. Shortly afterward the correspondent in question informed us that the prescriptions had been explained satisfactorily, that the physician purposely wrote the prescriptions so as to prevent a certain incompetent "doctor druggist," to whom the patient had been accustomed to take his prescriptions, from longer preparing them. He adds that the doctor was merely protecting himself (against incompetency?) and that it would not happen again.

Neither physician nor druggist can be justified in taking such a course "as a protection against incompetency." In the present instance the physician was probably influenced by other motives than those essential to the faithful discharge of the duties of a dispenser. To subserve this motive he enters into collusion with some druggist, and while placing the whole profession at a disadvantage, puts a premium upon dishonest practices by encouraging dispensing of prescriptions, whether or no they be understood. Upon this theory incompetency should be met with a bid for downright dishonesty. This is the inevitable result of this disreputable practice. The temptation is one to which the most competent are especially liable; insult their intelligence, and their resentment too often finds vent in a return insult to the physician's directions. To guess at the meaning of a cipher prescription is, they argue, no worse than to write one. This disposition is illustrated in the case before referred to when our correspondent, in his first letter written before he had the key to the prescriptions, frankly declared that he should not again permit himself to be humiliated by a confession of ignorance; he should not again return the prescriptions, unfilled, and thus give the impression "that his store is not as good as his neighbor's."

Incompetency on the part of the dispenser when proved, should be met with measures quite different from those which now and then are shown to degrade both professions.

The new Iowa law regulating sales of liquors by druggists must be pronounced a notable victory for the cause of reputable pharmacy in the State. It bears the evidence of an intelligent design calculated to afford all possible freedom in the dispensing of liquors for strictly medicinal uses, while at the same time it is loaded to the muzzle with penalties for dram-shop druggists and pharmaceutical saloon keepers. The law provides in brief that any registered pharmacist may obtain a permit to sell liquors for medicinal purposes and a "shipping permit" to receive such liquors from railway and express companies or other "common carriers" by presenting to the local board of supervisors a petition signed by at least three-fourths of the qualified electors of the township, town or ward where such pharmacist is located, certifying that he is a proper person to buy and sell liquors for medicinal purposes. The board being satisfied that the provisions of the law have been complied with it shall issue the permit as stated. The "shipping permit," upon being presented to a railway or express company, shall convey full authority to convey liquors for the person therein named. The pharmacist shall render monthly reports to the county auditor, showing all sales of liquors made during the preceding month, to whom sold and the purpose for which they were to be used, as represented by duplicate applications executed by each purchaser. Sales for other than medicinal purposes are made subject to the penalties prescribed for violations of the general prohibition act, and for the second conviction the certificate of the pharmacist shall be revoked by the Commission of Pharmacy.

These are undeniably severe restrictions, but experience proves that severe restrictions are necessary, especially in communities where the drugstore is the sole dependence of parched appetites. The great and discriminating feature of the victory, however, is that registered pharmacists now have a special act honoring them with special immunities and privileges, and are not crowded as before into the same noisome cell with mere grog-sellers and their degrading associations. The druggists of Iowa have been guaranteed, so far as legislative action could consistently go, their just rights. Their professional character has been recognized and vindicated. We anticipate a firm adherence to both the spirit and letter of the law, that no occasion may arise for a renewal of the fight, defensive or otherwise.

Routine prescription of quinine for colds, etc., is a common practice by pharmacists. It is usually assumed that quinine is only a tonic and hence destitute of danger, but an agent capable of depressing temperature must exert a depressant influence on the nervous system. That quinine does exert a very depressant influence on the system is shown by the voluminous literature relating to skin diseases produced by its use. These vary from simple rashes to serious hæmorrhages. Blood-spitting both from the gums and lungs has resulted from quinine. Dr. J. H. Wright (New York Medical Journal, Feb. 2, 1884) and others have reported cases of nervous collapse in old people directly due to quinine. Delafield (New York Medical Journal) has had under observation cases of insanity due to quinine, and similar cases are not wanting. The indiscriminate prescribing of quinine cannot fail therefore, to have serious results. It will not add to a pharmacist's reputation if some of these untoward results occur from his use of quinine, nor will he mend matters by referring all such effects to impurities in the drug.

Dispensing is being "tested" in England. A report has been submitted to the vestry of the Parish of Chelsea, by Edward Seaton, medical officer, public analyst, etc., and Otto Hehner, secretary of the Society of Public Analysts, etc., being an inquiry into the accuracy of the dispensing of medicines from physicians' prescriptions.

From this tabulated report we find that fifty different mixtures were dispensed from nearly as many different establishments—of the latter a number were co-operative stores; others were "doctor's shops" and some "drug companies." Among this number 17, or 34 per cent. exceeded the 10 per cent. limit of error fixed by the analysts, those dispensed at the "doctor's shops" seemingly being subject to by far the greatest variation. To establish these facts was avowedly the ultimate object of the inquiry, though it

was found that the error in the mixture, dispensed by the "doctor," was on the safe side, that of the "chemist and druggist" was 32 per cent. of perchloride of mercury above the required amount, while in the former instance the error was comparatively harmless.

Upon the whole the inquiry seems exceedingly valueless from the fact that the prescriptions were evidently prepared for the occasion, and especially designed to entrap the unwary. Errors may be anticipated in the dispensing of mixtures like the following, viz.: Ammonio-citrate of iron, 30 grains; distilled water, 6 ounces: or, iron sulphate, 40 grains; distilled water, 8 ounces, etc.

The analytical methods of chemists who attempt to trip up dispensers with such prescriptions as these are scarcely worthy of consideration.

The Virginia pharmacy law, a synopsis of which we present in another column, is in many respects excellently constructed, and were it not for the clause relative to physicians much good might be expected from it. The objectionable clause must have been adopted only after a stubborn resistance by the representatives of the druggists. It goes further than simply to admit graduates in medicine to registration unconditionally, but enacts that they shall have all the rights of registered pharmacists without being registered at all! "No person other than a registered pharmacist or a practicing physician," the law declares "shall be qualified to practice pharmacy." A careful perusal of the act justifies the inference that the legislature at least intended that physicians should be registered and be subject to the annual fee while practicing pharmacy, but whether the courts will thus declare the spirit of the act superior to its letter, remains to be determined. We fear otherwise, in which case every little homœopathic prescriber may look down upon the most capable pharmacist as in law an inferior in the pharmacist's own profession. The pharmacist must be registered, forsooth, and pay an annual fee and be subject to certain penalties, but the majestic homœopath and hydropath, and every form of medical pretension, may snap its fingers at the act and laugh druggists and the Board of Pharmacy to scorn! The grand Old Dominion might have done better by doing nothing. We sincerely trust the courts may be able in some way to atone for the injury and insult inflicted by the legislature

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The "Review of 5,000 Prescriptions" published in these columns recently has attracted the attention of pharmacists on both continents. It suggests the really sensible way of collecting data for Pharmacopœia revisions. State associations generally are giving the subject attention, and we anticipate that an inexhaustible fund of reliable information will be in readiness for such a revision of the U. S. P. 1890 as will make it in fact as well as in name a national work which shall commend itself to universal use in American pharmacies, and not be regarded as simply a text for the dispensatories and other dependent books. Chairman Rice frankly says on this subject that it is remarkably true of our indigenous drugs that their use is not always general, but things which are in common use in one section of the country are but rarely if ever employed in some other portions of the United States, and without some such definite information as can only be obtained by the method above referred to, any committee of revision is liable to err in its judgment as to what shall be made officinal and what to omit from its list. The prescription files of the drugstores of the country can be made to supply the absolute facts requisite for an intelligent judgment. Let these files speak through the associations and journals.

The intelligent system of political appointments contemplated by the federal civil service law is calculated to promote the cause of scientific education as well as of good government. Under the former system of haphazard appointments education and special adaptability for the work were comparatively unknown factors, but with competitive examinations knowledge is at a premium, and appointments to positions demanding scientific training are likely to be more justly distributed. If this change shall be permanent and honestly carried out, it must result in promoting education. Education in general will be greatly encouraged, if for no other reason than that a prize is held out for it by the State. But this general effect is quite remote compared with the direct stimulus given to the higher educational institutions, and especially those devoted to the study of technical sciences, like engineering, chemistry and pharmacy. Recently examinations have been conducted in all the larger cities for weighers and gaugers, and this would seem to be an inviting field, and comparatively easy of conquest, to competent young pharmacists who might desire to enter the government service.

We have received from Mr. Geo. W. Smith, of Benson, Smith & Co., Honolulu, Hawaiian Islands some very fine specimens of the leaves of Theobroma Cacao. These leaves are of magnificent proportions, varying from ten to fifteen inches in length. The tree is cultivated in these islands for its seeds, which yield "coca" and "coca-butter." It would be interesting to know if the alkaloid theobromine is to be found in the leaves in quantities sufficient to pay for its production. It is closely analogous to the alkaloids theine and caffeine, and may possibly serve as a substitute for cocaine. These islands are becoming noted for their products, and are exporting many articles to other countries.

Mr. Smith, who was formerly engaged in pharmacy in the United States, emigrated to Honolulu fourteen years ago, where his firm has won a leading position. He takes an active interest in his profession, and by way of pastime is prosecuting a course in The National Institute of Pharmacy, in which he attained the highest average made in the first 100 examinations.

The founding of a separate "Institute of Pharmacy" has been proposed and petitioned for at the University of Berin by the pharmaceutical society of Berlin. It is to include examinations of a chemico-legal character and of commercial products, as well as work in microscopic botany. The number of students interested, as well as the fact that it is one of the few large universities without such a department, is advanced as reasons for its establishment. Such men as Grossman, Muller, etc., are mentioned in connection with the undertaking.

The desirability of placing the chemical formulæ upon labels for chemicals has been suggested by Mr. D. G. Stoughton, of Connecticut, in a paper read at the State Association meeting recently. Manufacturers and dealers in chemicals would do pharmacy a great service by following this advice. Mr. Stoughton also advises pharmacists to affix the formulæ to packages containing chemicals which are not original containers, and believes that the practice would soon result in making every one who pursued this course for a year thoroughly familiar with chemical notation. We heartily approve of this recommendation, feeling assured that in no better way can the chemical formulas be fixed in the memory.

Queries and Formulæ.

WE cordially invite queries for this department on any subject of pharmaceutical interest. Correspondents will give their name and address, but initials only will be printed when desired. It is especially requested that they furnish such information as they may already possess on the subject embraced in their queries. Queries cannot be answered by letter. Communications for this department should be addressed to Editor of the WESTERN DRUGGIST, 69 Dearborn Street, Chicago.

64. A COMPATIBLE PRESCRIPTION.—J. N. W. (Pittsburg, Pa.) sends the following prescription, which he states makes a clear mixture:

℞	Zinci sulphatis	grs. v
	Plumbi acetatis	" v
	Mucilaginis acaciæ	ʒ vi
	Aquæ distil	q. s. ℥ vi

M.

Contrary to the statement made in the journals and works on pharmacy generally, insoluble sulphate of lead was not formed, but the mixture afforded a nearly clear solution. What may, he asks, be the cause?

It is a well-known fact that lead acetate and zinc sulphate in watery solution decompose each other and form lead sulphate and zinc acetate. The former, being insoluble, precipitates as a fine white powder. But it has also been frequently pointed out that similar examples of decomposition may be retarded or even entirely suspended in viscid or syrupy solutions. In this instance the acid in the mixture prevents the chemical reaction between the two compounds. By mixing the mucilage with the solution of the zinc sulphate first, and then adding the lead acetate, previously dissolved in a little water, the decomposition is completely prevented, and a clear solution is effected.

65. BISULPHITE OF LIME.—N. Young (Port Washington, Wis.) desires a formula for solution of bisulphite of lime for disinfectant uses. Use a saturated solution in water. The quantities required as a disinfectant or antiseptic for various purposes as indicated in the U. S. D. is no doubt based upon the saturated solution. It is but sparingly soluble in water. The use of sulphurous acid would be more effective and less objectionable.

66. ARQUEBUSADE.—Z. (Volga City, Iowa) sends the following queries:

The formula for Thedensche Arquebusade: This is an old synonym for "Mixtura Vulneraria Acida," formerly officinal in the Ger. Ph., popularly termed Wund wasser. The following is the formula:

Take of

Acid acetic dil	parts	300
Alcohol dilute	"	150
Acid sulphuric dil	"	50
Honey purified	"	100

Mix and filter.

67. BENZIN VS. GASOLIN.—What is the difference between benzin and gasolin for practical purposes? Gasolin is only a trade name to designate a mixture of the various low-boiling petroleum series. Benzin is practically the same substance, both names being applied to the same liquids. Since "gasolin" is a word not recognized at all, it should be abolished for the term benzin.

68. DRESSING FOR WOUNDS.—Give a formula for a liniment suitable for dressing wounds in cattle produced by a wire fence. N. B.

An ointment would be much preferable for healing wounds. Carbolated petroleum will answer admirably.

It is stated that a blow from an eel skin filled with sand leaves no mark upon the surface. This is the principle upon which the sandbag is made.

69. A PRESCRIPTION QUERY.—F. W. (Chester, Vt.) sends the following prescription:

℞	Potassii bromidi	ʒiv
	Ext. conii fluid	ʒii
	Tinct. valerianæ	℥iii
	Syrup aurant	
	Aqua font	

M. et. Sig. One teaspoonful three times a day.

The question in controversy is whether or not the bracket before the ℥iii should be construed to mean three ounces of each of the articles, or three ounces altogether; that is, an equal quantity of each to make three ounces. Technically the bracket signifies that the quantity of the three articles combined should be three ounces, and there is little doubt but that is the only construction tenable. The only cause for construing it otherwise would be the excessive dose. While it is true that the dose of the conium would be pretty large, still the combination of remedies is such as is given in very much larger doses, and for prolonged periods. We should not hesitate to dispense the prescription as a 3½-ounce mixture.

70. SYRUP HYPOPHOSPHITES COMPOUND F."—J. H. Gavin (South Boston, Mass.) desires a formula for the above. The following was published in this journal, March, 1884, after an analysis by Dr. Tscheppe, of the original "Fellows:"

Take of

Iron pyrophosphate	grs.	15
Sodium hypophosphite	"	45
Manganese " or sulphate	"	15
Quinine sulphate	"	5
Strychnine (dissolved)	"	½
Syrup sufficient to make	fl. ounces	16

Dissolve by trituration in a warm mortar without the addition of acid.

The following is the formula of the N. Y. & B. Formulary:

SYRUP HYPOPHOSPHITUM COMPOSITUS.

(Compound Syrup of Hypophosphites—Compound Hypophosphites.)

Hypophosphite of calcium	grains	256
" " potassium	"	128
" " sodium	"	128
" " manganese	"	16
Solution of hypophosphite of iron	minims	96
Sulphate of quinine	grains	8
Fluid ext. of nux vomica	fluidram	½
Sugar	av. ounces	12
Water	fluidounces	7
Hydrochloric acid	a sufficient quantity.	
Syrup enough to make	fluidounces	16

Dissolve the solid hypophosphites in the water, add the sugar, and shake until it is dissolved. Mix the sulphate of quinine with about 1 fl. oz. of the solution, and add enough hydrochloric acid (about 3 drops) to dissolve it. Then mix it with the rest of the solution, add the fluid extract of nux vomica, and finally enough syrup to make 16 fluidounces.

Each fluidram contains 2 grains of hypophosphite of calcium; 1 grain each of hypophosphite of potassium and sodium; ⅛ grain each of hypophosphite of iron and manganese, and smaller quantities of bitter alkaloids.

NOTE.—The syrup should not be confounded with the Syrupus Hypophosphitum (Syrup of the Hypophosphites) of the U. S. Phar. 1880.

Either of the above will no doubt yield satisfactory preparations. Will our readers please report their experience with them?

The following is taken from the same source:

71. Compound Syrup of Phosphates (Chemical Food).

Take of

Phosphate of iron	grains	256
Precip. carbonate of calcium	"	500
Carbonate of potassium	"	64
Carbonate of sodium	"	40
Citric acid	"	875
Glycerin	fl. ounces	2
Phosphoric acid (U. S., 50 per cent.	"	4
Orange flower water	fl. drams	6
Tincture of cudbear	"	2
Water	fl. ounces	1½
Syrup enough to make	"	32

Set the mixed carbonates in a capacious mortar, add the citric acid, and triturate them with the glycerin. Then add the orange flower water, about 20 fl. ounces of the syrup, and then gradually the phosphoric acid. When effervescence has ceased, add the solution of phosphate of iron, transfer the whole to a graduated vessel, rinse the mortar with a little syrup, add the tincture of cudbear, and lastly enough syrup to make 32 fluid ounces. Let the syrup stand during several days, then strain.

72. Deterioration of Tinctures.— A Reader (Detroit, Mich.) asks if tinctures deteriorate upon long standing, that is, for several years. That depends upon, first, if the tinctures have been properly prepared, and second, under what conditions they are kept. Assuming that the tincture has been carefully prepared with proper menstruum, there is no reason why the majority at least of tinctures should not be kept for any reasonable length of time without their strength being impaired. To accomplish this, however, the following conditions must be observed:

(1.) They must be kept in bottles tightly stoppered, preferably with good, well-fitting corks.

(2.) They must be stored at an even temperature. Sudden changes in the temperature affect the solvent power of the menstrua. Upon exposure to cold, precipitation takes place, and the precipitate is not again dissolved. In a warm temperature the alcohol of the menstrua in bottles partly filled volatilizes, and though again condensed, results in changing the solvent power, thus inducing precipitation.

(3.) The light should be excluded, as it is more than likely that sunlight promotes changes in many tinctures which induce precipitation. This is most especially marked in those containing considerable chlorophyll, which, by being rendered insoluble, may precipitate to some extent the active principles. With careful observance of these rules most tinctures may remain active for an indefinite period.

73. Syrup of Lemon.— What is generally employed when syrup of lemon is prescribed? R. B. S.

The officinal syrup is not permanent for any length of time in summer. When syrup of lemon is directed upon prescriptions, the officinal syrup should be dispensed. Syrup of citric acid is also officinal, and is a very fair substitute for the syrup made from lemon juice. Syrup of lemon, when made from the juice, clarified by boiling, by which the albuminous constituents are coagulated and freed by filtration, may be kept for any reasonable length of time by bottling while hot in small, well-filled bottles. They should be stored in a cool and dark place, and only one bottle at the time should be opened for use as wanted. When good lemons cannot be obtained at a reasonable price, the syrup of citric acid may be used instead.

74. Flavoring Extracts.—R. E. Wick (New Hartford' Iowa) desires formula for flavoring extracts of lemon, vanilla and strawberry; also for the "double concentrated" extract of lemon, similar to Gillet's.

We see no necessity for publishing any formula for spirit of lemon and tincture of vanilla, since the officinal formulæ are far superior to the majority of the receipt-book formulas. Flavoring extract of strawberry must of necessity be artificial, and is a very miserable substitute for the pure fruit juice or syrup. This can be made in the spring of the year from the berries with great profit, and may easily be preserved until next season. Should a more highly concentrated extract of lemon be desired than that of the U. S. Pharmacopœia, rectified German oil of lemon should be used, but its cost is about twenty times greater than the common oil of lemon. The term "double concentrated," etc., of many dealers is intended for the grocery trade, and these products being usually inferior to the Pharmacopœial standard, should not be employed by pharmacists.

75. Tincture Antacreda.— Please furnish the process for compounding this tincture, and also the dose.— Leo Schneider, Fontanelle, Neb.

The modus operandi is very simple. The ingredients were of two classes: (1) resin, oleoresin and oil, viz., guaiac, Canada balsam and oil of sassafras respectively; (2) mercury bichloride; and (3) alcohol as a solvent. To prepare according to pharmacal art, the resin is first extracted with a portion of the alcohol, about 4 fluid ounces. The tincture thus obtained is mixed with the Canada balsam, and the oil of sassafras previously mixed. To this mixture the mercury bichloride is added, first dissolved in the remainder of the alcohol. The mixture is set aside and decanted from sediment or filtered. As to the dose, the physician should be the best judge. It is an active preparation, containing about one-fourth grain mercury bichloride in fluid dram. Since one thirty-second of a grain is a pretty large dose, we should say that the dose of the mixture should not exceed 7 minims.

76. Syrup Iodide of Iron.—What length of time should it take to complete solution ferrous iodide in the preparation of Syrup Iodide Iron U. S. P., and what precautions are necessary as to exposure of the solution to light, etc.? I have prepared the syrup several times, and obtained a good syrup in color and taste, but not neutral, as required by the U. S. P. I judged my mistake must be in preparation of the solution ferrous iodide.—E. E. H., Clio, Mich.

[The time required to complete the reaction between the iron, iodine and water is about six hours, or it may be left standing over night. The container should be placed in a moderately warm place. As soon as all odor of iodine has disappeared, and the mixture has assumed an apple-green color, it should be gently heated, and then quickly filtered through a double filter into the syrup, and thoroughly mixed. After being made up to the required quantity, transfer the syrup to two-ounce vials, which fill completely, cork tightly, and keep in a cool place. With these precautions a permanent and an every way satisfactory syrup is easily made. As to the neutral reaction prescribed by the U. S. P., we incline to the opinion that no syrup of iodide of iron can be prepared absolutely conforming to that requirement. For another process see W. D., page 157, 1885.—Ed. W. D.]

77. Formulary.—J. D. (Hearne, Tex.) inquires for a formulary for flavoring extracts, perfumes, inks, colored lights, etc. The following are the most popular:

Beasley's Receipt Book; price, $2.25.

NELSON'S Druggists' Hand-Book; price, $3.00.

LILLARD'S Practical Hints; price, $1.00. Contains a fair collection of formulas.

DICK'S Encyclopædia is probably the most complete work of the kind extant.

[Any of the above sent by the publishers of this journal upon receipt of price.

78. PASTE FOR "TABLETS."—A. B. S. (Hammond, Ind): The paste for which a formula has been several times published in these columns is sufficiently strong for use in making tablets. It is prepared as follows:

Take of

Dextrin	ounces 4
Acetic acid dil	" 8

Dissolve by heat, and when cool add

Alcohol	ounce 1

Mix thoroughly.

79. BROWN'S BRONCHIAL TROCHES.—W. J. (Belleville, Ill.) The formula for this popular remedy is as follows:

Extract conium	ounces ½
Acacia, powd	" 2
Cubeb, "	" 2
Extract licorice, powd	" 8
Sugar, "	" 12
Oil peppermint	m 3

Make into a mass with water. Mix thoroughly and divide into lozenges of about 80 grains each.

80. DISINFECTANTS.—H. A. P. (South Bend, Ind.) will find a number of formulas for disinfectants in the W. D., January, 1886. As these were recommended by the Public Health Association, they will no doubt prove quite as effective as, if not superior to the odorless disinfectant, "bromochloralum."

81. SEA-FOAM.—Will Morris (New Holland, Ohio) sends a formula for "sea-foam" as follows:

℞

Ammonia water	fl. drams 2
Potassii carb	grs. 30
Tinct. soap	fl. ounce 1
Water "rain" q. s	" 16

Mix, and perfume to suit.

C. L. Willoughby (Tamaroa, Ill.): Your query is answered elsewhere. It is not practicable to make syrup of iodide of iron from the tincture or solution of the chloride. Regarding your process for preparing syrup tolu, it is the one officinal in the Pharmacopœia of 1870.

Louis Schenck, New Athens, Ill., asks where glass labels may be obtained for drawers to match white porcelain drawer-pulls. This style of labels for drawers is rather obsolete, and it is doubtful if they are to be had. We suggest that the new style of pull and label combined, manufactured by Whitall, Tatum & Co., be procured. They are comparatively inexpensive, and much more satisfactory. They are supplied by wholesale dealers.

NOTES TO THE EDITOR.

(Items from our readers for this Department always appreciated.)

CLARIFYING AGENT.—One of the best and cheapest clarifying agents is scraps of filter paper moistened, and pounded to a pulp; this shaken with the clouded solution, and filtered, will be found to make an excellent clarifier.—ED. L. D., BUCKHANNON, W. VA.

MEDICINE MEASURE.—In my practice as physician and druggist I note the many sizes of tea and tablespoons. To order a teaspoonful is about as indefinite as to order a spoonful. The big teaspoons come so near being small tablespoons, etc., etc., I would humbly suggest that these dainty measures be made of hard rubber, which will fit over the cork and neck of the vial, and which can be included in the price of the package. These measures can be made to hold one ounce and be graduated in drachms so that the everlasting spoon orders may be abolished. I believe if the manufacturers of rubber goods would take this idea in hand they could sell a great many gross of them.

Before I close this letter, I wish to say that the long-debated and undecided question "To whom does a prescription belong," may be easily settled thus: A doctor in giving a prescription gives it for a certain particular case. Therefore in States where pharmacy laws exist let one more law be added, viz.: A penalty for filling a prescription more than once. Other ideas will follow, if I am understood in the foregoing. Such a law would work to the benefit of the druggists and the doctor and the patient.—"GLYPTIC," FORT LUPTON, COL.

(The measure idea is a good one. It has been employed to a limited extent already in the wooden caps with which lactopeptine and other articles are furnished. If made accurate and sold at a low price their introduction might abolish the spoonful nuisance.—ED. W. D.)

"FOUR CHLORIDES" CORRECTION.—Regarding the formula for the above, published last month, from Dr. Lyons, it is evident that a mistake has been made in the quantity of solution of arsenious chloride. The formula as originally published directed 1 fluid dram in a 6-ounce mixture and, considering the dose prescribed, this is no doubt the correct quantity. We are indebted to E. H. Baker, of Williamsport, Pa., for this correction.

SUGAR OF MILK TO POWDERED CAMPHOR.—(W. G Mass, Union City, Tenn.) recommends the addition of sugar of milk to powdered camphor. In the proportion of 2 grains to 10 of camphor it prevents caking. The sugar of milk being nearly inert, is of course allowed for in dispensing.

Potash should never be allowed to remain in the form of shampoo, but should be carefully rinsed out. [A formula for sea foam is sent, but does not differ materially from others already published.—ED. W. D.]

TO REMOVE TIGHT STOPPERS.—In the February number, 1883, of the Druggist's Circular, page 29, was printed quite a long article on "The Removal of Fixed Glass Stoppers." Several methods are given which probably would produce the desired results, but would, I think, put the druggist to more trouble than would be necessary. My experience may not have been very far reaching, but in nine years at the dispensing counter I have not had a stopper that I could not remove by the following method which is very simple and easy to put into execution.

Place the bottle on the counter and let one person get on one side of the counter, and hold the bottle firmly with both hands about the shoulders of the bottle, then let the second person stand on the opposite side of the counter and draw a strong hemp cord around the neck of the bottle (in such a manner as to form a complete loop) rapidly back and forth. As soon as the neck becomes sufficiently heated the stopper may be easily removed. In my experience this has been a never-failing method.—CHAS. T. INMAN, AKRON, O.

MEDICAL NOTES.

STILLINGIA IN CROUP.—Dr. Scudder (Eclectic Medical Journal, February, 1886) has had good results from the local use in throat in croup of the following mixture:

℞ Oil stillingia..... ℥j
Oil cajeput..... ℥ss
Oil lobelia..... ♏ij
Alcohol..... ♏ij

M. It is given internally in two drop doses at the same time.

CAFFEINE NITRO-SALICYLATE AS A DIGITALIS SUBSTITUTE.—Dr. Wagner (Orvosi Hetilap No. 32, 1885) has found that caffeine nitro-salicylate in three-grain doses has all the advantages but produces none of the evil effects of digitalis. It is given in three-grain doses.

SASSAFRAS OIL IN NEURALGIA.—Dr. Thos. J. Miller (Virginia Medical Monthly) finds that sassafras oil gives good results in neuralgia. He gives it in soda water. He has also found it available as a substitute for veratrum viridi.

NAPHTHOL IN ITCHING.—Kaposi (L'Union Medicale, Dec 15, 1885) recommends a five per cent. naphthol ointment in itching from any cause.

VERATRUM VIRIDI IN CROUP.—The following mixture (Indiana Medical Journal, January, 1886) is said to yield good results in croup:

℞ Tinct. veratri viridi ..... m x
Syrupi ipecac..... ℥i
Spts. ætheris nitrosi..... ℥iii
Syr. limonis ..... ℥vi

M. Sig.—One teaspoonful every half hour.

APOMORPHIA AS A LOCAL ANÆSTHETIC.—Bergmeister and Ludwig (Centralblatt für Thérapie) find that a two per cent. solution of apomorphia has a local anæsthetic effect.

ESERINE SOLUTIONS.—Ocana (Revue Clinique d'Oculistique, September, 1885) says that eserine solutions which from keeping have become cherry red in color are best adapted for use in eye diseases.

LANOLIN, a cholesterin fat containing water, has recently been found by Dr. O. Liebreich (Berlin Klin. Wochenschr., Oct. 29, '85) peculiarly adapted for an ointment basis. It is readily absorbed, is perfectly neutral, and has properties not charged by vaselin or the ordinary fats. It is the natural fat of the skin obtained from feathers, sheep's wool etc.

MENTHOL AS A COCAINE SUBSTITUTE.—Rosenberg (Progrés Medical, Sept. 12, 1885), who has substituted menthol as a local anæsthetic for cocaine, finds that its effects last from fifteen to ninety minutes. It is used in 20 50 per cent. alcoholic or oleaginous solution for the nose, 10 per cent. for the mouth, and weaker for the eyes. It produces a very decided anæsthesia.

OINTMENT FOR RHEUMATISM.—The Southern Clinic states that in Bellevue Hospital the following ointment is extensively used for the pain of acute articular rheumatism:

℞ Chloral hydrat..... ℥j
Acid salicylic ..... ℥jss
Ung. stramonium..... ℥j

M. Sig.—Apply to the afflicted joints.

CAPSICUM IN PILES.—The London Medical Times states that twenty-drop doses of tincture of capsicum thrice daily with the meals exercise a decidedly beneficial action on piles.

BRUCINE IN CAT BOILS.—Dr. R. W. Zeiss (Therapeutic Gazette, January, 1886) finds that the local application of a five per cent. brucine solution mitigates the pain of ear or cat boils.

CARBOLIC ACID IN FRECKLES.—Halkins (Annales Médico-Chirurgicales de Liege, January, 1886) has had good results in freckles from after bathing the skin, drying it completely, and stretching it with the left hand, applying to the freckles a thin film of acid, which is allowed to dry. In a few days the spots are more noticeable, but in a week a flake of skin is detached, leaving a rose-colored spot, which soon resumes a natural color.

RHUBARB AND CARDAMON IN CHILD'S COLIC.—Dr. Shoemaker (Medical Bulletin) has good results from the following:

℞ Spts. chloroformi ..... mxvj
Tinct. cardamomi ..... ℥ij
Tinct. rhei..... ℥iv
Syrupi..... ℥vi
Aquæmenth. pip ..... ℥ss

M. Sig.—One teaspoonful every three or four hours.

VALERIAN AND MUSK IN WHOOPING-COUGH.—M. H. Roger (L'Union Medicale, Dec. 24, 1885) has had good results in severe whooping cough from the use of 150 grains rapidly increased to 600 if necessary of valerian syrup or tincture of musk in 5 to 10 drop doses for two-year-olds and proportionately for older children.

NAPHTHOL IN RINGWORM.—The Medical Bulletin advises the use of the following in ringworm:

℞ Hydrarg. bichlor..... gr. ij
Naphthol..... gr. x
Ung. zinci oxidi benz ..... ℥ j

M. Ft. Unguentum. Sig.—Use externally twice a day.

SYRUP FOR PAINFUL TEETHING.—Bouchut (L'Union Medicale, Jan. 9, 1885) has had good results in painful teething for the following syrup rubbed on the gums four times daily:

℞ Cocaine muriate, Sodium borate, each..... 1 part.
Syr. marshmallow..... 20 "
Syr. white poppy..... 10 "

M.

SPHACELINIC ACID IN NOSE REDNESS.—Dr. Unna (Deutsche Medizinal Zeitung) has had excellent results from ointments of five to ten per cent. of an ergot extract rich in spachelinic acid, in nose redness.

CAJEPUT OIL IN CROUP.—Dr. B. McMillen (Medical Advocate, January, 1886) recommends the use of the following in croup:

℞ Ol. cajeput..... ℥ss
Ol. sassafras..... ℥j
Tinct. lobelia (seed) ..... ℥j
Camphoræ (gum) ..... ℥iv
Alcohol ..... ℥j

M. Sig.—Bathe the throat well every two to four hours; five to ten drops on sugar, one to four hours, as necessary.

ARTIFICIAL COCAINE.—W. H. Merck (Deutsche Medizinal Zeitung, Dec. 28, 1885) has produced cocaine hydriodate by heating benzolecgonin with methyl iodide.

Correspondence.

We invite brief letters for this department upon any subject of interest to the pharmacist or druggist.

The publication of communications implies no indorsement by us of their contents.

Names of correspondents will not be printed if so requested.

Address matter for this department to "Editor of the WESTERN DRUGGIST, 69 Dearborn street." To be in season for the next issue, letters should reach us not later than the 5th of the month.

THE NEW IOWA LAW RELATING TO SALES OF LIQUORS BY DRUGGISTS.

(Editor The Western Druggist.)

The hardest fought pharmacy fight probably ever experienced has been successfully fought by Iowa pharmacists the past three months. As one of the representatives placed at the front of the battle I can say it has been an eventful siege. Our copies of the roll call on all important amendments on the floor of the House or Senate, reveals the fact that extremes do meet. We have had enough of this to do us forever, and are so thoroughly worn out that we prefer to "let the smoke of the battle roll by" before saying anything beyond the mere statement that before leaving the capitol yesterday we handed the State Printer the copy for a pamphlet which will contain an official circular of our Board upon the license law of 1878—as amended by laws of 1882 and 1886, with regulations and complete official forms to carry out the provisions of the new act. Let all pharmacists await this pamphlet and review all before expressing adverse criticism, as too many are disposed to do before they fully comprehend the law and its practical provisions authorizing regulations to make its requirements reasonable and efficient. These pamphlets will soon be out, then let each pharmacist read and judge for himself whether or not a great and *final* victory on this vexed question has not been reached out of this cauldron of opposing forces, and that, whether under a prohibition law or a license law, such a pharmacy law is necessary in either case. I hope now it will first be thoroughly reviewed and tried before other opinionated theorists like those extremists in the Legislature will pass their *judgment* on it. There will be time enough to defend it if necessary, but I hold its complete sincerity of purpose will be its own defender.

GEORGE H. SCHAFER.

[We give the text of the new law elsewhere in this issue. —ED. W. D.]

LETTER BY PRESIDENT PATTERSON.

To the Members of the Illinois Pharmaceutical Association and the Druggists of Illinois:—I desire to call your attention to the next annual meeting of our association, which will be held in the city of Rockford on Tuesday, Wednesday and Thursday, June 8, 9 and 10, 1886.

From year to year our meetings have been constantly increasing in interest and importance. The zeal and earnestness manifested by the various committees in the discharge of the duties assigned to them gives the strongest assurance that this will be more interesting and more important in its results than any previous one. In order to be prepared for the meeting of the legislature next winter our Committee on Legislation is actively at work and will present a draft of amendments to the pharmacy law at this meeting which, if adopted and enacted, will relieve us of many of the oppressive burdens and difficulties now encountered in conducting our business.

Any suggestions you may have to offer, which will tend to improve the law and benefit our condition, if addressed to Chas. W. Day, Springfield, will receive careful consideration at the hands of that committee.

The Committee on Papers and Queries are thoroughly awake to the importance of their charge and promise a large number of interesting and valuable papers for presentation at this meeting.

All are invited to answer any of the queries proposed by this committee, or write upon any subject of interest to the drug trade, whether scientific or commercial in character. These papers should be sent to L. C. Hogan, Englewood, some time previous to the meeting, that they may be arranged and properly presented to the Association.

The eminent ability and experience of the Committee on Drug Adulterations, assures us of an unusually interesting and valuable report on this subject. Any one observing an adulterated or sophisticated drug will confer a favor on this committee by reporting the same to Prof. N. Gray Bartlett, Chicago.

Space will not admit a detailed statement of all that is expected from our standing committees, but their ability and interest are so well known that I can predict a full and complete report on the subjects intrusted to them.

We need the influence and encouragement of every druggist in the State and desire your personal attendance at this meeting.

To those who are not yet members of our Association, I most earnestly request you to send your application to some member of the Committee on Membership and Organization, or to T. N. Jamieson, 225 31st street, Chicago.

In view of the many important subjects to be presented by the various committees and the proposed amendments to the pharmacy law which must affect every one in the State, you cannot afford to remain indifferent to these matters which so directly concern your business prosperity.

Are we to have a pharmacy law which shall be just and equitable to druggists, and a blessing to the State? Or shall we continue to plod along under difficulties and oppressive burdens not exacted or required of those engaged in other lines of trade? How these questions are to be finally decided, will depend very largely on the action taken by our association at this meeting.

It is hoped that every one will consider these matters carefully and come to our meeting and add their influence and assistance to elevate and improve our condition as pharmacists.

Manufacturers and wholesale dealers desiring to make exhibits at this meeting should communicate with the local secretary, H. C. Porter, Rockford, who will furnish such information in regard to space, etc., as may be desired.

I feel assured that our friends at Rockford will give us a hearty and cordial welcome, and that our visit there will be both pleasant and profitable.

Although there are so many matters of vital importance which will demand our attention and consideration, we will find time between the sessions to cultivate a friendly and pleasant acquaintance with our brethren in other parts of the State.

Let all come and we may enjoy a few days of pleasant recreation and relaxation, and thereby combine pleasure with the scientific and useful.

T. H. PATTERSON, President.

FREE ALCOHOL IN MEDICINES AND THE ARTS.

(Editor The Western Druggist.)

There is at last a faint possibility of the removal of the internal revenue tax upon alcohol intended to be used for manufacturing purposes. As will be seen from a perusal of a bill introduced by Mr. Hammond, it provides for the addition of wood alcohol to any alcohol for this purpose.

The Hammond bill, which will probably soon again be brought to the attention of the House of Representatives, is as follows :

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of the Treasury shall grant permission to any firm, individual or corporation to withdraw from bond alcohol or any spirit containing alcohol, and subject to internal revenue tax, in specified quantities of not less than three hundred proof gallons, without the payment of the internal revenue tax on the same, or on the spirits from which it may have been distilled, for the sole purpose of use in manufacturing or preparing drugs, medicines and chemicals ; Provided, That such spirits shall either first have been mixed with one-ninth of their bulk of methyl or wood alcohol of equal proof strength, under such rules and regulations as the Commissioner of Internal Revenue, with the approval of the Secretary of the Treasury, shall adopt: And provided further, That any person who shall sell, use, or willfully permit the use of spirits withdrawn under this act for any other purpose than that specified herein, shall, for each offense, be fined not less than five hundred nor more than five thousand dollars, and be imprisoned for not less than six months nor more than two years; And provided further, That any violation of the rules and regulations made by the Commissioner of Internal Revenue, with the approval of the Secretary of the Treasury, in conformity with this act, shall be punished by a fine of not less than fifty nor more than one hundred dollars for each offense.

A New York journal, in commenting upon the bill, takes occasion to say that while satisfied with even so small a concession, "it will fail of its pretended object, for the reason that for a large proportion of the uses mentioned—*i. e.*, in the manufacture of medicines—the admixture of one-ninth of the bulk of wood alcohol will unfit it for the preparation or manufacture of most medicines, and will prevent its use in the manufacture of some chemicals."

In my opinion, this very feature is strongly in the bill's favor. No legislation should be made which permits the use of alcohol duty free in the manufacture of medicines merely as a solvent. In the vast majority of these, as in the elixirs, many tinctures, and in all the bitters, the alcohol is the principal constituent—that is, the toxic effect of the alcohol contained in these is readily obtained without a corresponding specific action of the drug. As it would be next to impossible to decide—at least for the internal revenue commission—between legitimate medicines and fancy cordials, the door would be left wide open for "intoxication or stimulation under the guise of medication," and compounders and rectifiers, in the garb of philanthropists, would soon flood the country with alcohol "for medicinal use." This is only one of the fearful conditions which would inevitably result from giving full license to alcohol as a medicine. But who can deny that it would degrade and disgrace the now legitimate business of selling medicines? That it would introduce endless complications in such States as Iowa between the pharmacists and the public? That it would introduce a disreputable element into the drug business, and in consequence indefinitely postpone the present fair possibility of its becoming an honorable and scientific profession.

The tempting fact that it would reduce the cost of preparations to the druggist is sheer delusion—since prices are always primarily based upon cost of production and in the proportion that the cost is reduced in nearly the same proportion would prices decline. Besides, all engaged in the selling of drugs are well aware that it is not a question of profit but one of quantity. The profits always adjust themselves to a pretty nearly uniform proportion, and it is only by increasing the *volume* of business, that greater profits may be acquired. In other lines lower prices will stimulate or increase the demand, but such is not the case with the sale of medicines. As to the objection raised by the journal in question that "it would prevent its use in some chemicals," we believe it is not well founded and certainly not when applied to "the manufacture of shellac varnish," which is pointed out as an example where cheap alcohol would be desirable, probably for the benefit of the legislators (?). The bill is well worthy of adoption, and is commended to pharmacists generally for support through their representatives. H.

CHICAGO, ILL.

REPORTS UPON PHARMACY LAWS.

We have received the following from prominent druggists in their respective States relative to pharmacy laws:

KANSAS.

The text of the State pharmacy law is not what druggists would like it to be. An effort was made at the legislative session, two months ago, to have it changed. The State Board of Pharmacy and an appointed committee from the Kansas Pharmaceutical Association met and agreed upon desirable amendments. The new bill was introduced. Legislators, with their proverbial wisdom, thought they knew better than druggists what was needed, and, by dint of misplaced and ignorant zeal, succeeded in so mutilating the bill that it was deemed best to kill it. The Board of Pharmacy is a *political board*. It is appointed by the governor. The druggists of the State have no voice in the matter. It is possible that private interests may determine who shall be members. The governor selects, presumably by intuition. A governor ought to know, "you know!" Three out of five of the board are members of the Legislature, and the governor has more or less interest in the other two. Still, strange to say, the board has been a clear-minded, well-disposed body—a little arrogant, perhaps, at times, and slow, yet they have performed the duties assigned to them well and intelligently. Any apparent failure in duty on their part has in every instance been due to imperfections of the law. The board is not objected to, but the method of its appointment is.

The law has not been enforced. The Board of Pharmacy maintain that it is not their duty to prosecute—merely to examine and license. The consequence is that many illegitimate stores exist—mere disguises for liquor traffic. In some places ex-saloon-keepers are druggists! The good that has arisen so far from the law has been the emulation of drug clerks to closer study, with the view of fitting themselves to be proprietors.

In order to make the law efficient, some clause must be inserted making it obligatory upon the board to prosecute whenever a violation comes to their notice, or whenever they are informed of some (substantiated) violation.

ATRAMENS.

NEW HAMPSHIRE.

The pharmacy law is a great success. U.

MARYLAND.

I confess to some humiliation in being compelled to state that no pharmacy law exists in Maryland. B.

ALABAMA.

We have no pharmacy law. A bill passed the House, but failed in the Senate. We shall try again. C.

MISSISSIPPI.

Our pharmacy bill failed to pass. Every effort was made to get it through, but our Legislature opposed it on the ground that it proposed special legislation in the interests of a few. W.

MISSOURI.

The Missouri law works well enough so far as it goes. Amendments are needed, but they are difficult to secure. All attempts thus far have been futile. We propose to persevere until successful. K.

INDIANA LETTER.

It remained for an ex-druggist of Indianapolis to conceive one of the most philanthropic ideas that ever emanated from a "drugger's" brain. Finding "pill-pounding," so far as he was concerned, unprofitable, he became insoluble (insolvent) therein, and finally precipitated into the laundry business. Looking about for ways and means to make the business more than an ordinary success, he thought he would invade the field of practical hygiene by furnishing clean towels daily or monthly, as might be wished, to druggists and others desiring the same. Investing in a few towels and rollers, our enterprising brother canvassed the village, offering to furnish the towels himself, changing them as often as the subscriber might wish for the total sum of five cents for every change. The druggists here took hold of the scheme pretty well, seventy-five per cent. of them subscribing. When all was arranged, some interesting facts were discovered as to the different necessities of different druggists in the way of clean towels. Some two or three desired one clean towel every day, three or four wished one every other day, while by far the largest class wanted only one each week; while yet again there was found more than one druggist who thought one towel per month would answer. Not a single member of the last class mentioned belongs to the "Indianapolis Association of Pharmacists;" yet they are of the profession, and the idea has been advanced that, although Indiana has no pharmacy law, still these druggists who certainly are deficient in that quality "which is next to Godliness," might be suppressed through the board of health.

Eli Lilly & Co., of this city, are certainly very liberal gentlemen. Not long ago they established a system of instruction in pharmacy for their employes, and now, after the lapse of a sensible period, they offer prizes to those giving evidence of the most improvement. The prizes are a copy of the American Dispensatory and Remington's Pharmacy.

J. K. Lilly, Ph. G., an affable gentleman and accomplished pharmacist, and foreman for the firm, has delivered the lectures on pharmacy, while Mr. Frank Hereth has instructed in pharmacognosy and chemistry.

The Indianapolis Association, at their last meeting, in accordance with a declared intention made two years ago, voted a gold watch, suitably engraved, to the student standing highest in the first class to graduate from the Purdue School of Pharmacy. The honor fell upon Mr. E. G. Eberhardt, and the presentation is to be made at the commencement in June in the presence of the State society.

The Indiana Pharmaceutical Society, while not so large in point of numbers as those of our sister States, contains much good timber. We labor under peculiar disadvantages at present, which, however, we hope to overcome in time. One of our difficulties lies in the fact that having no pharmacy law our State has been a catch-basin for the incompetents sloughed off from and refused admission to the adjoining States which are blessed with pharmacy laws. These incompetents, supplemented by a rich undergrowth of indigenous incompetents, give material of a quality not calculated even to permit, let alone aid, any advancement in our art.

Two prescriptions of Chicago physicians which have fallen in my way during the last year I wish to present. As a gem in the illustration of a highly scientific and effective method of exhibiting silver nitrate, the following is to be commended:

℞ Ether ..... ℥i
Nit. silver cryst..... ....grs. xl
Ft. Sol. Sig. Paint temples every two hours.
——, M. D.

Here is the other; "she's a daisy, I tell you:"

℞ Nitro mur. ac. dil ..... ℥ij
Aqua menth. pip..... ..... ℥ij
Sacch. pepsin... .... grs. c
Bicarb. soda... .... ℥i
M. Sig. Teaspoonful in water after eating.
——, M. D.

These were not written by the same person, but emanated from two different Æsculapians from the rapid city on the north lake's shore, and were received at periods wide apart. The following from an Indianapolis practitioner of ancient graduation shows what can be done down here when our fullest efforts are put forth:

℞ Syrup tolu..... .... ℥i
Syrup alum..... ..... ℥i
Syrup ipecac..... ℥i
Bicarb. of soda..... ..... ℥i
M. Sig. Teaspoonful to be given for croup.

If the bicarb. soda were dissolved in the syr. of alum what a fine large tubful of foam one would have to contend with. How effectually, too, would the combination of the soda and alum destroy the peculiar solvent action of the last mentioned on croupous membranes.

I have no fear of going far amiss in stating that surely the Chicago physicians who wrote the prescriptions given were prominent in advocating the privilege of doctors practicing pharmacy when your Illinois law was under consideration.

Not long since I had my 1885 volumes of the different pharmaceutical periodicals bound. The great difference in size and shape again brought to notice what admirable table tops bound volumes of the Druggists' Circular would make. The American Druggist has about the right dimensions to fit its bound volumes for lap boards, while the St. Louis Druggist is too small for either of the above purposes, and too large for shingles. The American Journal of Pharmacy, the WESTERN DRUGGIST, and Pharmaceutical Record fit all ordinary shelves, and can be handled conveniently.

I suggest that all the periodicals pool issues and adopt the size and shape of the WESTERN DRUGGIST. J.

WISCONSIN LETTER.

We are still alive in Wisconsin, although more quiet than the druggists in some other States, who seem to have so much trouble over cut prices. We have no trouble here at all, and I inclose a copy of contract which is in force all through this section. The blanks (see form below) are printed by order of the association, and sent to one druggist in each town, who forms a local society. This has worked well here for two years past.

Sunday, March 14, George Tonnar, of Menominee, lost his store by fire. Loss, $8,350; insurance, $5,470; salvage, $200. Mr. T. also lost his books containing 26,000 prescriptions, a loss which cannot be replaced.

The Wisconsin Association will meet this year Aug. 10, 11, 12, at Fond du Lac, this being the seventh annual meeting. The Pharmacy Board will meet at the same time and place for the examination of candidates for registration.

A list of the officers of the pharmacy boards of different States would be appreciated by many to be kept up in your journal the same as your Association bulletin.

The Committee on Unofficinal Formulæ as appointed by the Wisconsin Association is F. B. Power, Madison; H. C. Schranck, Milwaukee; H. T. Eberle, Watertown. Druggists throughout the State are invited to correspond with them.

Since my last letter I have received notice of the death

of Daniel Lynk, of Cumberland, a member of our association and a licentiate in pharmacy.

Messrs. Foster Bros., of Beloit, have opened a drugstore at that place.—Messrs. Williams & Pryor have gone into the drug business at Dodgeville.—Adam Conrath has been reappointed for five years on the Board of Pharmacy, which will give satisfaction to our boys generally, who think he is well posted on all subjects but the one, viz., matrimony.—The committee appointed by the association to examine the candidates for graduation at the School of Pharmacy report a high degree of proficiency on the part of the pupils, which reflects great credit on Prof. F. B. Power, who occupies the chair in this branch of study. The committee consists of John A. Dadd, of Milwaukee, chairman; J. C. Huber, Fond du Lac; and C. P. Bechman, Fountain City. The candidates were ten in number—Messrs. Weschcke, Rhyme, Ray Menges, Kremers, Hammersley, Fischedick, Carter, Bennett and Bauman. A gold medal, donated by the State Association, will be awarded to the candidate who has attained the greatest proficiency when the diplomas are issued, which will be some time in June. The school now consists of forty pupils, a larger number than its most sanguine supporters anticipated it would reach in the short period it has been in existence, this being its second term. The class of graduates last year numbered eight; this year, as stated before, the number was ten.—George A. Metzger, of La Crosse, was burnt out April 5.—Young & Pellett, of Oconomowoc, were fined $50 and costs ($19.35) April 7 for running a pharmacy with no registered person in charge.—The State Board will meet for examination on Wednesday next, April 14, at 9 A. M., at Madison. This is also their annual meeting; officers will be elected, etc. WISCONSIN.

JANESVILLE.

[Following is the form of agreement referred to in the above, which we again publish for the benefit of new subscribers.—ED. W. D.]

We, the undersigned, ...Druggists, hereby form ourselves into the "Druggists' Union," the object being to regulate the sale of patent and proprietary medicines at retail. And we hereby pledge ourselves to adhere to the resolutions adopted by this meeting, a copy of which will be furnished to each member.

It is further agreed that in case any member violates the adopted scale of prices, either directly or indirectly, such person or firm shall, upon conviction, forfeit the sum of Twenty-five Dollars, to be paid to the Druggists' Union.

Said forfeit shall be paid only by order of a committee, to be composed of three druggists, one of whom shall be chosen by the informant, one by the accused, and the other by the two already chosen and when so paid, to be divided equally among the other druggists signing this agreement. This agreement to take effect on its signing by all the druggists and patent-medicine dealers.

We hereby agree to sell all patent or proprietary medicines and articles at the prices established by the manufacturers, as per retail list of Van Schaack, Stevenson & Co.

And we further agree to sell the following articles at the price, named below:

Saunders' Face Powders....$	50
Pozzoni Face Powders.....	50
Vaseline and Cosmoline preparations of all kinds.	
Small.....	25
Medium.....	50
Allcock's Porous Plasters...	25
Benson's " " ...	25
Herrick's " " ...	25
Collins' " " ...	25
And all other spread plasters of like character at.....	25
Seidlitz Powders, per box, containing 12 powders	40
Gourand's Oriental cream..	1.50
" Olympian " ..	1.00
Hagan's Magnolia Balm....	75

A deviation may be made from the foregoing prices in the following quantities, when taken at one time of one manufacturer's goods:

5 packages of	25c.	articles..	$1.00
6 "	25c.	" ..	1.75
6 "	50c.	" ..	2.50
6 "	75c.	" ..	4.00
3 "	$1.00	" ..	2.75
6 "	1.00	" ..	5.00
3 "	1.25	" ..	3.25
3 "	1.50	" ..	3.75
5 Spread Plasters for.....			1.00
$6 worth of Patent Medicines at manufacturers' retail prices for.....			5.00

It is further agreed that any unstaple and old stock preparations may be sold by the owner, with a view to close them out, for such prices as they may see fit.

And it is further agreed, that if at any time any of the parties signing the above articles are dissatisfied, they may withdraw upon serving 30 days' notice, in writing, upon the Secretary of the Local Union.

Signed.

(The Druggists, each firm by its representative.)

Dated this.....day of .....

.....[Seal.]

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NOTES FROM THE COAST.

(San Francisco Correspondence.)

What is "Flake White?" This was the heading of an article in the February issue of the W. D., and reminds me of an incident which occurred some months ago.

A lady customer desired to purchase some "Flake White." As lead carbonate is usually sold for this, I recommended her to use some of the more safe forms of chalk. I noticed that she was interested in what was said to her about the deleterious effect of the lead preparations when used as cosmetics. She stated that she had used "Flake White" for a number of years, had always introduced it into a bottle and mixed it with soft water, and that she had some of the substance, which had lately been purchased, remaining in the vial. At my request it was brought to the store, and upon examination proved to contain lead. The lady stated that she had been compelled lately to consult a physician, who told her she was suffering from lead poisoning, but was unable to trace the cause, and, not being aware of the nature of what was being applied to her face daily, she placed little faith in his diagnosis.

I was somewhat astonished to find the same customer call for a bottle of "Ha l's Hair Renewer" only a few days afterward. I again cautioned her about the use of this, stating that it was a lead preparation and that she must also cease the use of this, as she was already suffering severely from the effects of the lead in her system. Nevertheless she purchased the "Renewer"(?), no doubt going away with the belief that, if she had lead in her system, I had lead on the brain.

Under the name of Terpine an article has lately been referred to as useful in bronchial affections, and described as being in the form of crystals, evidently a hydrate of Terpine. At the time the article was first called for none was obtainable in our market. A process was recommended in one of the journals as follows: Oil Turpentine 4 litres, alcohol 80 per cent. 3 litres and nitric acid 1 litre; mix together, set aside to crystallize, drying the crystals, dissolving in alcohol and neutralizing with an alkali and recrystallizing. The time required was not mentioned, which is about two or three weeks. I have since separated crystals of Terpine hydrate made by using 3 parts of 94 per cent. aloohol, 4 parts of oil of Turpentine (nitric acid 1 42 1 part, water 3 parts), of this mixture 1 part was taken. The alcohol and diluted acid were mixed together and the turpentine added, the mixture set aside, covered with cheese cloth until crystals had formed; these were dried, dissolved in alcohol and neutralized with spirits of ammonia and recrystallized. The crystals of terpine hydrate make a beautiful object for the microscope, with polarizer attachment.

Another article seems to be used under the name of Terpine (Terebene?) which is a colorless liquid. Evidently we shall require a little more knowledge on this subject, if such preparations are coming into use.

Prof. W. T. Wenzell, at the recent meeting of the California Pharmaceutical Society, exhibited beautiful crystals of an orange yellow color from Cascara Sagrada, with the Oxyhydrogen microscope. These crystals were obtained by means of sublimation on a mercury bath. From a deposit which was collected from the Fl. Extract of Cascara Sagrada—made with dilute alcohol and dried—the same crystals were obtained by heating over a lamp chimney a portion of the deposit on a glass slide; placing near each end a little slip of wood and covering with another slide, the crystals are sublimed in a very short time. The sublimate seems to bear a resemblance to frangulin; I send you inclosed a portion of the precipitate.

Why is it that some of our Eastern manufacturing firms

send out as Ferri et Ammonii Sulphas a preparation containing iron in the ferrous form, and appearing in the form of pale green crystals, when the term should alone be applied to the so-called Ammonio Ferric alum, to avoid confusion —which contains iron in the ferric form, having usually a pale amethyst or violet color—the pure salt is colorless, the violet tinge being due to an excess of acid. Would it not be proper to have a few explanatory remarks on such labels?

In a sample of Cimicifugin purchased in the market, the principal portion consisted of sugar of milk. I purchased this to try to discover a crystalline principle aside from the sugar of milk. The result proved unsuccessful, as it did with others who endeavored the same; a peculiar bluish fluorescent principle is, however, present. Chloroform takes up a decidedly bitter principle, having a peculiar sweetish after-taste. The resin, after being exhausted with chloroform and treated with ether, forms an acid and astringent solution, giving a green color with ferric chloride.

Is the present process for making "Solution of Chlorinated Soda" an improvement over the process of 1870? We fail to find it so. To use the commercial chlorinated lime an increase of carbonate of soda is necessary. If made in accordance with the present Pharmacopœial requirement, I am afraid the ammonium oxalate test for lime would be sure to indicate it. OAKLAND.

NOTES FROM GERMANY.

BY OSCAR LOEW, PH. D. MUNICH.

PHARMACY in Germany is frequently forced into a fighting position. Now it is a petition against obstructive laws now the evil of secret medicines, and now again the pretensions of physicians. An example of the latter case: In a large and prominent drugstore in Berlin recently, a bottle of "*Balsam de Borri*" was sold, a composition of an alcoholic extract of rad. angel., flor. lavend., hb. hyperic., olibanum, myrrha, aloe "and benzoe" with an addition of 10 per cent. bals. of Peru. A physician thereupon denounced the pharmacist in a medical journal, calling it an unlawful practice to sell composed medicines, and claiming that physicians alone have the right to prescribe such compositions. The little excitement, however, soon evaporated.

THE idea of some leading members of the German Pharmaceutical Union, to found a new great journal serving exclusively the interests of the Society has been rejected by the majority of the subdivisions of the Union in Germany, and the independent journal, the Pharmaceutische Zeitung has now taken its abode in Berlin, has increased in volume, and does better service to pharmacy than could a mere club-organ of several ambitious men who want to rule and govern.

A PROMINENT pharmacist died in Darmstadt recently—Emil Scriba. He took a prominent part in the development of the pharmaceutical society in Hessen.

THE students of pharmacy at the Munich University have recently founded a scientific club. They meet once a week regularly and carry on discussions and deliver scientific orations. According to the principle "utile cum dulci" they combine the scientific meetings with beer and smoking, *as is the custom here in every scientific society*, and every branch of science here in Munich has its own society. There is the Anthropological, the Chemical, the Botanical, the Physiological, the Geological, the Meteorological, the Geographical Society, etc., and everywhere you see the combinations: Science and—beer! Indeed, these meetings would sometimes be very dry without the beer. Prince Ludwig, who will be our next King of Bavaria often visits some of these societies and partakes of the social fluid. Americans must learn the principle *utile cum dulci;* they will then take a more philosophical view of life, and pass it more agreeably.

THE agitation against the privileges of the existing drugstores is somewhat on the increase as the government seldom permits the establishment of new drugstores. And there is really a want of them—especially in the country. In some rural portions of North Germany there is but one drugstore to 15,000 inhabitants! In Bavaria the proportion (in the country) is one to 6,000. There are not more than 5,000 drugstores in the vast empire of Germany! [Compare this with the 30,000 drugstores in the United States.—ED. W. D.]

SOME new druggists' societies have recently been founded, one in Berlin, counting 80 members, and one in Bochum.

THE periodical literature serving the pharmaceutical interests in Germany consists of six journals, the Archiv für Pharmacie, the Pharmaceut, Pharmaceutische Centralhalle, Pharmaceutische Zeitung, South German Apotheker Zeitung, Pharmac. Central-Anzeiger.

A PHARMACOGNOSTICAL institution will probably soon be established in Leipzig in connection with the University. Besides a great collection of drugs, a microscopical and chemical laboratory will be a part of the building, and the students will receive a thorough training in the investigation of drugs.

A NEW and very practical method to teach botany to beginners is furnished by models of flowers and fruits in enlarged size. These models have recently been brought into the market by R. Brondel, Kurfursten, damm in Berlin, and are prepared after the order and under the control of several prominent botanists, like Prof. Cohn of Breslau. All the different parts of the models of the flowers may be taken apart (stems, petals, etc) and composed again. This certainly deserves the attention of pharmaceutical schools.

IT IS well known that Iodoform gradually is decomposed. Dacomo has recently shown that this decomposition takes place only in presence of oxygen by daylight. In evacuated tubes or in gases freed entirely from oxygen no change is noticed. The decomposition takes place according to the following equation:

$$2CHI_3+5O=3I_2+2CO_2+H_2O.$$

AN interesting observation has recently been made by A. Brown in regard to Mannitol. This substance undergoes gradual oxydation if the Bacterium aceti is allowed to grow upon a solution of it, and the product formed is laevulose:

$$C_6H_{14}O_6+O=C_6H_{12}O_6+H_2O.$$

Mannitol. Laevulose.

Thus the interesting problem is solved of converting dextrose into laevulose, as dextrose may be easily converted by nascent hydrogen into mannitol.

YOUR correspondent has recently made the observation that the former aldehyde may be directly converted into a sugar of the formula $C_6H_{12}O_6$, by treating it with a little caustic lime at ordinary temperature. The so-called methylenitan, a body obtained by Butlerow by boiling the mixture of formic aldehyde and lime, is a mixture of decomposition products of this sugar. It differs from the other well known sugars in several points, especially in regard to the polarized light and in its combination with phenylhydrazine. The formation is indicated by the equation:

$$6CH_2O=C_6H_{12}O_6.$$

It is a simple condensation process. I call this new sugar, formose.

A FACT of great interest was recently observed by Maquenne; he found that in many plants are contained small quantities of methylic alcohol; 34 kilograms of grass gave 10 g.; 37 kilogr. of nettle gave 10 g.; 35 kilogr. of ivy gave 8 g; 100 kilogr. Indian corn gave 8 g. of methylic alcohol. As several years ago Bergmann discovered a frequent occurrence of formic acid in plants, a new argument may be brought forward in favor of the assimilation theory of Baeyer, who believes that the carbonic acid is converted by the green leaves first in formic aldehyde the first organic product formed:

$CO_2+H_2O=2O+CH_2O$.

The formic aldehyde then is converted into sugar, starch, cellulose, etc. We know also that the formic aldehyde is easily decomposed by strong alkalies into formic acid and methylic alcohol:

$2CH_2O+H_2O=H_2CO_2+CH_4O$.

E. SCHULZE investigated the nitrogenous combinations of germinating gourds and found them to consist of glutamin, asparagin, leucin, tyrosin, vernin, xanthin, ammonia-salts, nitrates and small quantities of peptones. Asparagin and vernin were found in the cotyledones only, not in the axial organs of the germinating gourd. The germinating lupine shows quantitatively a great difference from gourd, and contains besides the combinations above mentioned, also amido valerianic acid and phenylamido propionic acid. All these products are derived from the decomposition of albumen during the germinating process.

THE alleged new alkaloid obtained from hops, the so-called hopein, proved to be an utter swindle, it being nothing but morphia a little aromatized.

HERZIG found that the formula of Rhamnetin $C_{12}H_8O_5$ has to be doubled.

REGIANIN, and Juglon, a substance contained in the skin of walnuts, have been found to be identical; they are a derivative of naphtochinon.

M. CONTAMINE recommends a very simple way of determining the strength of the commercial solution of peroxide of hydrogen. He takes 1 cc. of the solution and dilutes it in a burette with distilled water to 30cc.; introduces then a few crystals of permanganate of potash wrapped in thin paper and closes the burette until the development of oxygen ceases; 1 cc. ought to give at least 10 cc. of oxygen gas corresponding to a 10 per cent. solution of the peroxide.

SEVERAL new tests for the purity of cocaine have recently been recommended; Giesel proposes to dissolve one centigram cocaine hydrochlor. in one to two drops of water and to add c. c. of a solution of permanganate of potash containing 0.3 per cent. of the salt. A violet precipitate —permanganate of cocaine must be formed. A deposit of peroxide of manganese or the development of oil of bitter almonds would indicate impurities. The test Biel recommends, is the following: Take half a grain of cocaine, dissolve it in one cubic centimeter of concentrated sulphuric acid and heat the mixture cautiously for one to two minutes to 200–212° F., let the mixture cool and add then 3 cc. water. After half an hour's standing a considerable crystalline deposit of benzoic acid will be formed.

A SINGULAR attempt at self-poisoning was made by a girl 22 years old here in Münich. She drank 150 grams of kerosene, fell into a deep narcotic sleep and strangely enough, was well again after five days.

THE "*condensed beer*" manufactured in England and exported on a grand scale was recently subjected to a careful investigation by Warnecke of Gottingen, and found to contain an admixture of morphia. The quantity of this alkaloid amounted to 0. 11 gram in 15. 5 gram beer.

CHEMICAL formu'as are becoming more and more complicated. Now think of the molecule of haemoglobin, the coloring matter of the blood; the formula of this body was found by Zinofsky to be $C_{712}H_{1130}N_{214}S_2Fe_1O_{245}$. A neat little molecule, indeed!

OF new publications may be favorably mentioned:

1. "Lectures on Bacteria," by A. de Bary, professor in Strassburg, with 18 plates. Published by W. Engelmann in Leipzig. The author's name is a sufficient guarantee of the value of the book.

2. Real-Encyclopaedie der gesammten Pharmacie, by Dr. E. Geissler and Dr. I. Moeller. This publication appears in a series of parts, and brings in alphabetical order an explanation of everything of interest to the druggist. It treats of botany, of toxicology, of hygiene, of bacteriology, of microscopy and chemistry as far as these sciences are necessities for pharmacy. The first part now published justifies the hope that the following parts will correspond to the wants of pharmacy. The book is published by Urban & Schwarzenberg, Leipzig.

J. Bros., York, Neb., desire the formula for PHOSPHORESCENT PASTE OF PAINT for making luminous match-tops, clock and watch dials, etc. As the formulæ which we have is rather obsolete, we invite our correspondents to contribute a satisfactory working process.

It has been ascertained by Dr. M. Mobius that the oily gloss or shimmer of the petals of the yellow species of Ranunculus is due to a highly refractive yellow oil contained in the epidermal cells. The appearance is also assisted by the fact that the layer of cells immediately beneath the epidermis is densely filled with minute starch grains.

TESTS FOR ADULTERATION OF MENTHOL CONES.

Messrs. Dundas Dick & Co., New York, the pioneers in the menthol cone industry, are naturally exercised over the prevalent menthol adulterations which threaten the reputation of all articles of the kind. They have in consequence published the following simple, easy, quick and inexpensive, but effectual tests for the usual adulterations of cones such as grease, wax, paraffin. salicin and other powders:

Test for Detecting Greasy Cones.—Rub the Cone firmly on white paper, then heat the paper gently for a minute, which will melt and evaporate the Menthol and if the Cone contains grease, the paper will now show a greasy mark or spot—if pure, no mark at all.

Test for detecting Powder, Grease, etc., in Cones.—Scrape about a grain from any cone on white paper, and heat the paper over a small flame or stove until you see the Menthol melt; then continue the heat until the odor of Menthol ceases, when, if the cone has been made of pure Menthol, the paper will have the same appearance as before used; no powder, no mark or stain will be left. If any other odor than menthol is given off during evaporation, or if any greasy mark, stain or residue appear on the paper, the cone is adulterated. Blue paper shows a greasy mark better than white. Black paper shows more distinctly powders, etc. than white, and by weighing the paper before and after the test. the exact amount of non-volatile adulteration can be ascertained.

Test for Detecting Coated Cones.—Those greasy cones which have only a thin coating of some kind of menthol are the greatest deception in the market, and can easily be detected by simply cutting into two parts.

Botany and Microscopy.

Recent researches by Herr Kraus seem to indicate that tannin is not a waste product of excretion in the plant, but that it is rather a kind of reserve food material, and plays an important part in the nutrition of the plant. Among other reasons for believing that this is the case is the way tannin is distributed in the plant. It occurs frequently at the growing-point of the stem, in the combium layer, in the palisade tissue of leaves, in the soft bast—in short, in the most active tissues of the plant. It also occurs along with other food materials in tissues specially devoted to reserve materials. Its distribution is in fact comparable to that of starch and sugar. Other reasons for the view are that its production is closely connected with light, that it diminishes in quantity when the leaves or shoots containing it are kept for some time in darkness, and that, like starch, it is formed in parts strongly exposed to light, and then transferred to other parts of the plant.

Recent investigations of Dr. Bockhart have proved that gonorrhœa is produced bacteria, and Dr. Fehleisen has discovered micrococci in the lymph-glands of the parts of patients affected with erysipelas, and he has proved by inoculating rabbits with a pure culture of these organisms that they are the cause of the disease.

Cedar-wood oil has been recommended by good authority as a means of clarifying tissues previously to imbedding them in paraffin. A tissue immersed in this oil is rapidly clarified, and when now immersed in melted paraffin the latter is rapidly absorbed by it. The oil does not injure the tissue, even if the latter be immersed in it for a long time. If what is claimed for the method is true, it will render section-cutting simpler and less troublesome. We have not yet had time to give it a trial.

Picro-borate of carmine is recommended as a staining reagent which has all the advantages of picro-carmine and none of its disadvantages. It is prepared as follows: Mix when warm equal volumes of borax carmine and a saturated solution of picric acid, and add to the mixture one volume of 95 per cent. alcohol. Filter when cold. It keeps indefinitely, and is said to have a great penetrating force and gives a double stain.

A solution of molybdic acid in strong sulphuric acid is recommended as a delicate test for protoplasm, and for demonstrating the continuity of protoplasm from cell to cell. It causes the cell-wall to swell, but does not color it; the delicate threads of protoplasm that traverse it are colored blue, while the main mass of protoplasm within the cells becomes intensely blue.

H. E. Summers, of Cornell University, publishes the following method of fixing paraffin or celloidin sections to a slide:

The slide is first coated with collodion or with a solution of celloidin in a mixture of alcohol and ether, and then allowed to dry. Paraffin sections are now arranged on the slide and touched with a drop of mixed ether and alcohol, and after the mixture has evaporated the sections will be found to be firmly fastened to the slide. The paraffin may now be dissolved away by means of some suitable solvent, as oil of turpentine or benzine.

Celloidin sections are first soaked in 95 per cent. alcohol then arranged on the collodion-coated slide. As soon as the alcohol has pretty well evaporated, they are treated quite freely with the mixture of alcohol and ether, and when this has evaporated the slide is placed in 80 per cent. alcohol. They will now be found thoroughly fastened to the slide, and may be stained and the mounting finished in the usual way.

Dr. M. D. Ewell, who of late has been giving a great deal of attention to micrometry and micrometrical appliances, speaks in enthusiastic terms of the superiority of the stage micrometer ruled by Rogers on speculum metal. He uses it with Prof. H. L. Smith's vertical illuminator, and states that in point of clearness and sharpness of outline there is no comparison between the lines ruled on the metal, and those ruled on glass.

Prof. H. L. Smith finishes his boro-glyceride mountings with wax in the following manner: Rings of the proper size are punched out of the common sheet wax, such as is ordinarily used for making wax flowers. One of these rings is picked up from the flat table, by placing the slide upon it with the cover of the mount down, so as to insure the cover being central with the ring. When this is done the slide is turned over and the heat of a small flame applied to the under surface of the slip until the ring softens and settles down into place. Care must be taken not to melt the wax so that it runs, otherwise the symmetry of the ring will be destroyed. As soon as the wax has thoroughly cooled the ring may be polished by rubbing. It makes both a beautiful and a durable finish, and doubtless might be used with many other mounting media besides the one mentioned.

Prof. W. W. Bailey finds that carriage-glue is a convenient substitute for the ordinary kind in the mounting of botanical specimens for the herbarium. It comes in tin cans of various sizes, is semi-fluid, easily thinned with water, and is therefore always ready, and dispenses with the nuisance of a water-bath.

We learn that Prof. Bessey has recently been appointed State Botanist of Nebraska, and the law-making powers of that commonwealth have generously appropriated "the sum of twenty-five dollars, or so much thereof as may be necessary," to pay the incidental expenses connected with the appointment. This exhibition of intelligent interest in science is extraordinary on the part of legislators.

Mr. S. G. Shanks states in the Microscopical Bulletin that very thick Farrant's solution is the best medium that he has found for the preservation of starch. The grains will swell very slightly, but their characteristic markings remain distinct.

Farrant's solution consists of select gum Arabic two parts, water two parts, aud pure glycerin one part. The solution is kept from spoiling either by dissolving in the water a little arsenious acid, or by keeping a lump of camphor in the bottle containing the medicine.

Dr. F. J. Burrill recommends the following imbedding mass as one of the most useful for the purpose of microbotany:

"Take good white hard soap ('Ivory' soap is excellent),

cut in very thin slices, and, having gently compressed them in a suitable dish, pour in enough 95 per cent. alcohol to somewhat more than cover the sliced soap. Heat to near the boiling point of the alcohol until the soap is dissolved. Add now a small quantity of glycerin. The amount of the latter can be readily ascertained by pouring out a few drops of the warm mixture and allowing it to cool. Without any glycerin the mass instantly congeals into a white friable substance quite unfit for our purpose, but as glycerin is gradually added the mass hardens less and less rapidly, and becomes more and more transparent. For soft tissues the imbedding mass may thus be made as transparent as glass and exquisite for cutting. For harder substances less glycerin must be used."

Alcoholic preparations may be transferred immediately to this mixture, and fresh specimens may be readily imbedded in it, providing the tissues do not contain a large quantity of water. The facts that the medicine is convenient to handle does not injure the cutting instruments, and is sufficiently transparent so that the imbedded object may be distinctly seen, are also important advantages. Prof. Burrill also claims that thin sections are not so likely to roll up as with most other masses. As the medium is readily soluble in cold water but not in cold alcohol, it is best to keep the razor moistened with the latter liquid during the process of cutting, and to transfer the sections as soon as cut to the former liquid.

Instead of felling forest trees with the ax, and then afterward extracting the stump with a stump-puller, the whole thing is now accomplished at once and much more expeditiously by means of dynamite. A cartridge of the explosive is placed in a channel bored directly under the tree, and when the explosion takes place the tree is lifted bodily out of the ground and falls on one side. The process has the further advantage that much valuable timber that was formerly left in the stump is utilized. It is said that if the charge of dynamite be properly proportioned there is little danger of splitting or slivering the trunk of the tree.

FUNCTIONAL BOTANY.

In an article under this title, Dr. R. G. Eccles (Drug. Circular, April, '86) graphically portrays plant life and more especially the perpetuation of the species—fertilization. The various methods by which plants become fertilized through insect aid are vividly indicated. As the most remarkable instances of cross-fertilization we make the following excerpt:

"One large South American orchid mentioned by Prof. Darwin is probably among the greatest curiosities in this respect. A large inviting opening allows ingress to bee or butterfly. When entering the stigma removes every speck of available pollen from it. After securing the nectar, on turning to go out again it finds the flower has put before it a pool of water and caused drops of water to fall from above. To try to get out as it entered is to drown. A narrow passage guarded by another farther down in the flower allows it to escape, while showers of pollen cover it from head to foot. This, of course, it carries to the next, to be licked by the sticky stigma at the front door. Several plants akin to Jack-in-the-pulpit and calla lily, as well as one or two of the birthwort family, have regular fly traps. The flower tubes are filled with long, bristle-like hairs pointing downward. As the fly enters he crowds them apart, but if he tries to go back again he is impaled against their points like so many bayonets. The stigmas receive such pollen as he brought from the older plants and are fertilized. As soon as they have dried up and the poor fly is nearly starved to death the anthers shower him from feet to back with sweet pollen, which he devours rapaciously, and, as the hairs now die, he goes forth carrying a load to the other plants. Mountain laurel has its filaments set like coiled springs that the feet of bees release. Rising with a snap the anther head scatters a mass of pollen over the intruder. The simplest formed flowers can be fertilized by many kinds of insects, but there are others so complex that only one form of moth, butterfly or bee can reach their honey, or carry their pollen. Whenever that insect is subject to the attacks of birds the flower and it are of one color. If the birds wage a very close war against the insect, then the flower will be found to closely mimic it. So far has this gone with some orchids that they are perfect pictures of their fertilizing butterflies, even to the wing dots and antennæ. The flower by changing first in color and then in shape, to resemble the insect, made it possible for the insect to sit on the branches and escape detection by its bird enemy. The bird, dreading the nasty taste of the flower, dare not risk a mistake in seeking it there. The orchids that resemble the butterfly most closely will necessarily be best fertilized, so that there must be a constant tendency for those becoming more and more like it to survive in the struggle."

Then noticing these natural orders represented by the largest membership in officinal drugs the fact is pointed out that a wonderful similarity pervades the plants of each order as far as the physiological effect of their principles are concerned. In the few most noted exceptions even it would appear that the difference in toxic action is only one of degree.

Then from the therapeutic connecting link between the members of the different natural orders another feature of the mysteries of nature is pointed out. He says:

"Whenever in this scope of country valuable cinchonas have been discovered the climate is found to be one of incessant rain and fog. For nine months they have heavy showers, usually at night, alternating with fogs and fleeting sunshine during the day. In the three colder months night frosts are followed by dense day fogs. It is a perfect paradise for low cryptogams, and malaria reigns supreme. The trees seem bound to protect their sap from infection by supplying the bark through which it circulates with an abundance of quinine. The yield is greatest when the fog is densest. See how perfect the adaption! Cultivators now take advantage of this by covering the bark with moss and shielding the trees from continuous sunlight. They thus produce the effect of fogs, and double the yield of quinine. Only such cinchonas as were able to battle with the attacks of low fungi could survive in such a clime. The trees with least quinine were weeded out, and those with increased quantities were not only preserved, but became monarchs of the forest. The best producers outgrew all others in size. Those that were able to produce extra amounts when an extra demand came were likewise preserved, while all that could not so accommodate themselves to such extra strains were weeded out. Such method of improvement will now no longer be required. Men will weed out the inferior kinds instead of letting malaria do it. Already they have begun this task by adding cinchona to the 246 other species of plants under cultivation. Compare wheat with couch grass, apples with crabs, and wild cherries with tame if you wish to gain some notion of what we can yet produce in the line of medicinal plants as to their yield of alkaloids or other active principles. The human race will mould the vegetable world in the future as the potter now moulds his clay. They constantly change in all sorts of ways. We have only to pick out such as change in the way to suit us. A supreme, inscrutable Power lies behind the changes and makes them for us. How or why that Power rules all nature thus is beyond our ken."

Clerks' Department.

BY PHARMAKON.

WEIGHTS.

Before going any further it would be well at this period to thoroughly understand what is meant by the word weight.

Weight, that is, the weight of a substance, is the downward pressure which the earth's attraction causes it to exert for substances. The attraction which all bodies have for each other is termed gravitation, and weight is due to gravity; but while all bodies have gravity, some, as for example, the heavenly bodies and our own earth, have only gravity, but no weight. The determination of this attraction of the earth for substances is termed weighing. This is effected by comparing the attraction or downward pressure of the substance by a fixed quantity of mass or standard weight. Now, then, how is this standard of comparison—weights—obtained?

Probably not one in a hundred of the persons daily employing weights know how the standard is obtained. Many are familiar with their history, how and when they were introduced, and some even have a dim recollection that the original is preserved in the State archives, but comparatively few, even among pharmacists, can give an intelligent account of the precise manner in which our weights were obtained. The mere fact that a certain standard exists from which all weights are made to correspond, should not be satisfactory to a pharmacist, but acquaintance with the basis for this standard of comparison, its exact foundation, alone should be adequate.

First of all, it was necessary to take a natural substance which should be absolutely uniform in density at a given temperature. For this purpose water was chosen, since, if pure or distilled, it is unvarying in weight, and its great abundance naturally gives it the preference. One cubic inch of water, that is, a volume or bulk of water measuring one cubic inch, at 62° F., was stated to weigh 252.458 grains. This forms the basis for the *grain*, and from it in turn were then formed the higher denominations of Troy and Avoirdupois weights, such as scruple, dram (drachm), ounces and pounds, and ounces and pounds Avoirdupois, respectively.

The *grain* is therefore the *unit*, that is, the common smallest part from which all our other weights are formed. But the grain was chosen arbitrarily, that is, taken at random from a fixed volume; the weights must therefore be dependent upon the measures of volume. Let us see. In the measures of volume the gallon is the standard from which the smaller denominations are obtained. A volume of 231 cubic inches is fixed as one U. S. gallon, and from it, by division with the number 8, we obtain pints, then fluidounces, fluidrams and minims. It will thus be seen that while in the system of weights the higher denominations are obtained directly from the smallest quantity, the grain; in our system of volume the smaller measures are obtained from the largest volume, the standard gallon.

In these various measures and different denominations of weights there is no uniformity, that is, one fluid ounce of water weighs neither one troy ounce nor one avoirdupois, but nearly between the two, 455.6 grs., and the same variation extends down to the minim which weighs 95-100 grain.

Nevertheless, as has been already shown, both systems are based upon the cubic inch of water, and since the weight of this is established it becomes an easy matter to compute the weight of any volume or measure. But in all computations between weight and volume the question of temperature must be considered. In fact, the standard temperature at which the weight of the cubic inch of water was originally determined is as integral a part of the system as the weight itself.

The following table shows the weight in grains of the various denominations of measures, calculated from water at 62° F., thus:

1 cubic inch=252.458; 252,458×231=58,318 grs.=1 gall.
58,318÷8=7.290=1 pint.
7.290÷16=455.6=1 fluid ounce.
455.6÷480=0.949=1 minim.

Since our avoirdupois pound contains 7,000 grains and the Troy pound 5,760 grains, it will be seen that there is anything but uniformity, or corresponding commensurability, between our weights and measures.

But we have not as yet found the real origin of the standard for weights. We have shown that both systems of weights and measures were obtained from a cubic inch of water, but how is the cubic inch obtained?

All our standards of measurement are obtained from the measures of extension also called the linear system. The inch which is the unit of our English linear system is obtained from the second's pendulum. It was found that the length of the pendulum, vibrating seconds in a vacuum at the latitude of London, was 39.13929 inches, that is, the length of each stroke for a second's time, measured this length in English inches, and this was then adopted as the standard for the inch, which was the 1-36 of an English yard.

An old druggist says that women are not wanted in drugstores because they cannot keep a secret. Drugstores are the repositories of secrets.

The legislature of Kansas made an appropriation for the support of the chair in pharmacy at the State University. This evidence of interest in the welfare of pharmacy in Kansas by the law-making body must be as gratifying to the druggists of the State as it is complimentary to Prof. Sayre.

E. Scheffer, president of the Louisville College of Pharmacy, warns the public against a person styling himself C. M. Arent, who fraudulently obtained a diploma of the college by representing that he was the graduate of that name and had lost his diploma in a fire. The real C. M. Arent afterward had his attention called to the matter, when the fraud was discovered.

The great German chemist, Frederich Wohler, died in 1882. In recognition of his eminent services the German Chemical Society at once proposed the erection of a monument at Gottingen, where most of his life's work was accomplished. A sum of $4,000 has been collected, but as this is not sufficient for the purpose, an appeal has been made to American chemists to aid in honoring one who has done so much to elevate their calling to the rank of a true science. The American committee particularly appeals to those who formerly studied under Wohler, and to all who are interested in the science to which he devoted his life. Contributions may be sent to Prof. Ira Remsen, Johns Hopkins University, Baltimore, Md.

Societies and Colleges.

BULLETIN OF PHARMACEUTICAL ASSOCIATIONS.

For information upon any subject relating to the affairs of any association, address the Secretary. For information regarding commercial exhibits, address the Local Secretary at the postoffice designated as the place of meeting. Blanks in the table will be filled out on receipt of the required information, which we shall be pleased to receive from the Secretary or other officer.

PH. ASSOCIATION.	PRESIDENT.	SECRETARY.	TREASURER.	PLACE AND TIME OF MEETING.	LOCAL SECRETARY.
Am. Phar. Asso.	Jos. T. Roberts, Baltimore, Md	J. M. Maisch, Philadelphia	C. A. Tufts, Dover, N. H.	Providence, R. I., Sept. 7	W. B. Blanding
N. R. D. A.	E. A. Sayre, Brooklyn, N.Y.	J. W. Colcord, Lynn, Mass.	F. H. Masi, Norfolk, Va.	Providence, R.I., Sept. 6	.....
N. W. D. A.	M. N. Kline, Philadelphia.	A. M. Merriam, Minneapolis, Minn.	S. M. Strong, Cleveland, O.	"Minneapolis-St. Paul," Sept. 21	.....
STATE ASSOCIATIONS.					
Alabama.....	.....	P. C. Candidus, Mobile	.....	Birmingham, May 11	G. M. Bains
Arkansas.....	.....	J. B. Bond, Little Rock	.....	Little Rock, April	.....
California.....		Chas. Troppman, San. F.			
Connecticut.....	F. M. Wilson, Willimantic.	F. Wilcox, Waterbury	G. P. Chandler, Hartford	Meriden, 1887.	.....
Delaware	.....	.....	.....	.....	
Florida.					
Georgia.....	H. G. Hutchinson.	W. S. Parks, Atlanta	.....	Savannah, April 13	
Illinois.....	T. H. Patterson, Chicago.	T. N. Jamieson, Chicago	B. F. Gardner, Atlanta	Rockford, June 8.	J. R. Porter
Indiana.....	August Detzer, Ft. Wayne.	Jos. R. Perry, Indianapolis	Emil Martin, Indianapolis	Lafayette June 8.	David Hilt
Iowa.....	A. H. Miles, Des Moines.	R. M. Upson, Marshalltown	C. H. Ward, Des Moines	Waterloo, May, 1887.	C. D. Wangler
Kansas.....	H. W. Spangler, Perry.	John T. Moore, Lawrence	C. D. Barnes, Abilene	Emporia June 9	D. W. Morris.
Kentucky.....	H. W. Evans, Danville.	J. T. Cook, Harrodsburg	J. J. Brooks, Richmond	Bowling Green, May 5	W. Turner
Louisiana.....	.....	Mrs. E. Rudolph, N. O.	.....	New Orleans, April 21	.....
Maine.....	.....	.....	.....	.....	.....
Maryland	.....	M. L. Byers, Hagerstown	.....	Annapolis, June 1—	.....
Massachusetts...	Frank M. Pease, Lee.....	J. W. Colcord, Lynn	F. H. Butler, Lowell	Boston, June 2—	Henry Canning
Michigan.....	H. J. Brown, Ann Arbor.	Stanley E. Parkill, Owosso	Wm. Dupont, Detroit	Grand Rapids, Oct. 12	Wm. L. White
Minnesota... ...	S. W. Melendy, Minne'lis	W. S. Getty, St. Paul	J. C. Hening, Stillwater	Minneapolis, June 9	Jos. R. Hoffin..
Mississippi.....	J. P. Finlay, Greenville	H. F. West, Fayette	W. R. Brenning, Natchez	Jackson, May 18	....
Missouri..... .	A. T. Fleischman, Sedalia	G. H. C. Klie. St. Louis	J. M. Good, St. Louis	Sweet Springs, June 15	.....
Nebraska.....	H. D. Boyden, Grand Island	F. P. Zimmer, Grand Island	C. F. Goodman, Omaha	Omaha, May 11	C. J. Daubach
New Hampshire	M. S. Woodman, W. Lebanon	G. F. Underhill, Concord	....	—— Oct.	.....
New Jersey.....	W. M. Townley, Newark	R. H. Van Sant, Trenton	Wm. Rust, New Brunswick	Newark, May 19	.....
New York.....	T. J. Macmahan, New York	C. W. Holmes, Elmira	C. H. Butler, Oswego	Rochester. June 8	C. H. Harkin
North Carolina.	.....	J. C. Munds, Statesville	C. F. Nurman, Manchester	Fayettevilie, Aug. 11	B. E. Ledberry
Ohio....	W. M. Melville, Sandusky	L. C. Hopp, Cleveland	Chas. Huston, Columbus	Springfield. June 2	Chas. Ludlow
Pennsylvania...	C. T. George, Harrisburg	J. A. Miller, Harrisburg	J. L Lemberger, Lebanon	Lebanon, June 8	J. H. Redsecher
Rhode Island...	Wm. K. Reynolds	H. I. Leith	John E. Potter	Providence.	.....
South Carolina..	.....	P. Wineman, Charleston	....	.....	.....
Tennessee.... ..	.....	....	....	Knoxville, May 12.	.....
Texas.....	G. Kalteyer, San Antonio	Dr. G. Rice, San Antonio	E. W. Lancaster, Marshall	Dallas, April 27.	E. A. Eisenlohr
Vermont..... ...	.....	.....	.....	.....	.....
Virginia	J. W. Thomas, Norfolk	E. R. Beckwith, Petersburg	F. H. Masi, Norfolk	Alexandria, May 11	E. Warfield.....
West Virginia..	.....	C. Mœnkemoller, Wheeling	.....	Wheeling, June 8	.....
Wisconsin.....	F. F. Prentice, Janesville	E. B. Heimstreet, Janesville	W. P. Clarke, Milton	Tuesday, Aug. 10	F. M. Givens ...

STATE BOARDS OF PHARMACY.

Following are the officers and members of the various State Boards of Pharmacy; in each case the name of the President is given first and that of the Secretary last. States not named in this list have no pharmacy law:

CONNECTICUT.—Emil A. Gessner, New Haven; N. Douglas Sevin, Norwich; Frank Gallagher, M. D., New Haven.

GEORGIA.—Edward Barry, Augusta: J. S. Pemberton, Atlanta; O. Butler, Savannah; John Ingalls, Macon; I. Zacharias, Bainbridge.

ILLINOIS.—George Buck, Chicago; Herman Schroeder, Quincy; J. E. Espey, Bloomington; A. E. Ebert, Chicago; C. W. Day, Springfield.

IOWA.—G. H. Schafer, Fort Madison; R. W. Crawford, Fort Dodge; C. A. Weaver, Des Moines.

KANSAS.—R. F. Bryant, Lincoln; W. A. Stanford, Florence; C. J. Butin, Fredonia; Peter Eager, Wyandotte; James I. Taylor, Atchison.

KENTUCKY.—* * *

MAINE.—* * *

MASSACHUSETTS.—* * *

MICHIGAN.—O. E. Eberbach, Ann Arbor; James Vernor, Detroit; F. J. H. Van Emster, Bay City; Geo. McDonald, Kalamazoo; Jacob Jesson, Muskegon.

MINNESOTA.—S. L. Crocker, Faribault; Gordon Webster, Minneapolis; T. F. H. Stark, Minneapolis; W. S. Getty, St. Paul; R. O. Sweeney, St. Paul.

MISSOURI.—P. H. Franklin, Marshall; W. T. Ford, Kansas City; M. W. Alexander, St. Louis.

NEW HAMPSHIRE.—Chas. A. Tufts, Dover; Chas. F. Hildreth, Sun cook; Edward H. Currier, Manchester; Geo. F. Underhill, Concord.

NEW JERSEY.—* * *

NEW YORK.—A. B. Husted, Albany; Chas. K. Brown, Deposit; J. Hungerford Smith, Au Sable Forks; Chas. H. Hashin, Rochester; Edward S. Dawson, Jr., Syracuse.

NORTH CAROLINA.—W. H. Green, Wilmington; E. M. Nadal, Wilson; John Tull, Morgantown; E. H. Meadows, New Berne; W. Simpson, Raleigh.

OHIO.—John A. Nipgen, Chillicothe; F. T. Bower, Toledo; John Weyer, Cincinnati; E. M. Hatton, Zanesville; P. H. Bruck, Columbus.

RHODE ISLAND.—Wm. B. Blanding, Providence; W. E. Clarke, Providence; James H. Taylor, Newport; Wm. H. Catton, Newport; Albert B. Collins, Westerly; Henry M. Dudley, Woonsocket; Norman N. Mason, Providence (Register).

VIRGINIA.—J. W. Thomas, Jr., Norfolk; T. Roberts Baker, Richmond; Edgar Warfield, Alexandria; Robert Boyden, Danville; E. R Beckwith, Petersburg.

WEST VIRGINIA.—E. L. Bogge, Charlestown; J. W. S. Baker, Martinsburg; C. D. J. Bingell, Wheeling; A. W. Williams, Parkersburg.

WISCONSIN.—Adam Conrath, Milwaukee; A. H. Hollister, Madison; F. Robinson, Kenosha; T. H. Spence, La Crosse; E. B. Heimstreet, Janesville.

WYOMING.—A. R. Troxell, Cheyenne: * * *

SIXTY-FIFTH ANNUAL COMMENCEMENT OF THE PHILADELPHIA COLLEGE OF PHARMACY.

The sixty-fifth annual commencement of the Philadelphia College of Pharmacy was held at noon March 18 in the Academy of Music.

The president of the college, Mr. Charles Bullock, presided. Seated with him on the stage were the members of the faculty and board of trustees, with invited guests.

After the preliminary musical programme by Bastert's orchestra, the president conferred the degree of Graduate in Pharmacy (Ph. G.) upon the graduates, 172 in number, whose names and residences are as follows:

Alabama—Joseph P. Ward

Connecticut—Walter B. Cheney.

Delaware—Edward H. Fakey, Frank W. Prickett, Joseph P. Williams.

England—Henry Medd.

Germany—Adolph A. Poehner.

Illinois—John C. Boyd, Albert E. Brown, William W. Cafky, Clarence H. McCoy, William Ohl, David Rosenbaum.

Indiana—Harry V. Becker, Charles E. Hewitt, George W. J. Hoffman, Thomas J. Kizer, William A. Lowenthal.

Iowa—John F. Kiedaisch, Jr., Philip P. Moeszinger, Frank L. Smith.

Kansas—Charles E. Weck.

Kentucky—Oscar C. Fletcher.

Maryland—Eugene C. Downes, Randolph H. Downes, James S. Grant.

Massachusetts—William H. Meek.

Mexico—Harry N. Hall.

Michigan—Charles E. Escott, Lorren S. Vincent, Frank J. Young,

Minnesota—William D. Kelly.

Mississippi—Ferdinand Holberg.

New Jersey—Ellsworth H. Adams, Charles W. Albright, David W. Baker, Arthur Berret, Frank J. Birt, Charles S. Braddock, Jr., Harry B. Campbell, Alfred I. Davis, John J. Flynn, Charles T. Heller, James Hinkle, John C. Hulshizer, Seth C. Johnson, Sidney L. Kinsell, Samuel C. Lawrence, Philip Van R. Post, John M. Roseberry, George W. Scarborough, Jr., Andrew S. Scull, Harry Tidd, Christopher C. Ward—21.

New York—Claude H. Arnold, Daniel W. Cahill, Frank F. Smith, Charles A. Swanson—4.

North Carolina—Doane Herring.

Ohio—Everett V. Alexander, Louis E. Barlow, Charles F. Bonnet, Edwin S. Craig, Frank D. Hall, John A. Klopfenstein, Thaddeus D. McFarland, Samuel L. Rambo—8.

Pennsylvania—William W. Abell, Thomas J. Backes, William G. Barrowman, Robert M. Bell, Horace M. Bickley, Lin L. Bowman, Morris W. Brecht, Frank L. Brown, William A. Bullock, John D. Burg, William T. Burke, Herman A. Burkhart, Nathan A. Cohen, Isaiah G. Colborn, Charles S. Commings, Prosper M. Dallett, George W. Danzberger, William H. Davis, Thomas I. Deibert, Hugh L. De Kalb, William E. Donough, Frederick Dunn, Walter Dunn, Foster B. Eisenhart, George B. Evans, Harry H. Felter, Albert M. Fischer, Jacob L. Fischer, Harry Fritsch, Frank E. Gardner, Harry R. Giffin, Wm. G. Greenawalt, John W. Harrigan, John S. Heistand, Allen W Hauck, Henry L. Heim, George G. Hinterleitner, Edgar A. Holland Frank E. Johnston, Samuel S. Jones, Francis J. Keogh, Frank W Keyes, Otto de Kieffer, Walter A. Kirkham, Howard Knight, Charles H. Koch, Harry K. Kroh, David H. Kurtz, Edward C. Lafean, Francis J. Lammer, Jr., Raymond B. Loughead, Cornelius J. McCarthy, Charles H. McConnell, James P. Mallon, John G. Marbourg, George B. Maurer, Samuel R. Means, Irvin G. Melot, Edward T. Moffitt, John D. Moore, William H. Morrett, James Morrison, James H. Munson, William G. Nebig, Charles G. Neely, Albert Oetinger, Callistus M. Parrish, Edward V. Pechin, George J. Pechin, Robert W. Pfaeffle, Frank C. Reighter, William A. Ridington, Charles Rentechter, Jr., Joseph V. Roberts, Thomas A. Savage, George W. Shoemaker, Edwin W. Stager, Harry L. Stahler, Henry Sunderland, William E. Supplee, George W. Thompson, Winfield S. Trout, William F. Wagner, Charles F. Wild, Wm. J. Wilkinson, Wendell P. Wingender, James F. Yealy, William S. Young, Paul Zieber—89.

South Carolina—Silas J. Duffie, James R. Hendersou.

Tennessee—Robert C. Bicknell, Wm. A. McBath, Samuel W. Prewett.

Texas—Moritz Kalteyer, Harry C. Risher, Charles Spalding.

Virginia—Damer A. Drew, Harrison H. Pritchett.

West Virginia—William E. Neil, John M. Wayman.

Wisconsin—Arthur H. Cohn, Wm. Hiecke.

Washington Territory—James E. Buckley, F. Will Pantzer.

The following prizes were then given to the successful competitors:

The Proctor Prize, a gold medal and certificate to the student passing a very satisfactory examination in every branch and preparing a meritorious thesis, awarded to Charles Edward Escott, of Michigan.

The Henry C. Lea Prize of $100 for the best thesis, awarded to Samuel Stephen Jones, of Pennsylvania.

The Materia Medica and Botany Prize, a Zentmayer Histological Microscope, for the best thesis on an American drug, presented by Prof. John M. Maisch and awarded to Milton Horace Bickley, of Pennsylvania. H. A. Burkhard and A. H. Cohn received honorable mention.

The Pharmacy Prize, for the best exhibit of pharmaceutical preparations, also awarded to Mr. Bickley. Honorable mention to F. J. Lammer, Jr., J. M. Roseberry and J. E. Buckley.

The Operative Pharmacy Prize of $25 in gold, offered by E. L. Boggs, of Charlestown, W. Va., awarded to Frank Devie Hall, of Ohio. Honorable mention to T. J. Backes, E. C. Lafean, D. Rosenbaum.

The Theoretical Pharmacy Prize, a prescription balance, offered by Henry J. Maris, of Philadelphia, awarded to A Damer Drew, of Virginia.

The Chemistry Prize, a fine analytical balance, awarded to Charles Ellsworth Hewitt, of Indiana.

The John M. Maisch Prize of $20 in gold, offered by J. H. Redsecker, of Lebanon, Pa., for the best microscopical examination of sections of drugs, awarded to Jacob Livingood Fischer, of Pennsylvania.

The valedictory address was then delivered by Prof. Maisch.

TWENTY-SECOND ANNIVERSARY OF THE ALUMNI ASSOCIATION OF THE PHILADELPHIA COLLEGE OF PHARMACY.

The twenty-second annual meeting of the Alumni Association of the Philadelphia College of Pharmacy was held on the afternoon of March 16 in the college building. The president, Howard B. French, read his annual report. He called attention to the need of a fire-proof building for the college on the Tenth street front, and said he had received a check from Mrs. Powers intended to start a subscription for the object. He also urged that more attention be given to the proper education of young men entering the college, and suggested that the trustees be asked to insist upon an examination in English branches before matriculation. These suggestions were referred to a committee for consideration.

The annual report of the secretary, Wm. E. Krewson, Ph. G., was read. It gave an account of the social meetings held by the association during the year, and of the work of the Quiz Committee.

The members of the graduating class this year who received the Alumni prizes are:

Gold medal to Charles E. Escott, of Grand Rapids, Mich.; Certificate on Materia Medica to Jacob Livingood Fischer, of Punxsatawney, Pa; Certificate on Pharmacy to A. Damer Drew, of Worsham, Va.; Certificate on Chemistry to Hartwell Harrison Pritchett, of Danville, Va.; Certificate on General Pharmacy (committée) to Walter Bowden Cheney, of South Manchester, Conn.; Certificate on Operative Pharmacy to Frank Devie Hall, of Newark, Ohio; Certificate on Analytical Chemistry to Herman Adolphus Burkhart, of Bethlehem, Pa.

The prize testimonial or certificate for the best and most complete collection of indigenous plants (600 in all) was awarded to Mr. James Adams Ferguson, of Philadelphia, of the senior class. The junior testimonial was awarded to Addison Lloyd Beck, of Sharon, Pa., he having passed the best examination of the junior class.

The report of the treasurer, Edward C. Jones, showed a balance of $136.44 in the treasury.

Officers were elected as follows: President—Wallace Proctor; First Vice-President—David W. Ross; Second Vice-President—Clement B. Lowe; Treasurer—Edward C. Jones; Secretary—William E. Krewson; Corresponding Secretary—B. Frank Scholl; members of Executive Board for three years—Thomas H. Potts and C. Carroll Meyer, and Dr. A. W. Miller to fill unexpired term of Lucien E. Sayre, resigned.

A resolution proposing the union of a Northwestern Alumni Association with this organization and the creation of "associate vice-presidents of divisions" was adopted.

It was agreed to issue a prize certificate hereafter on examination of specimens. The association also discussed a plan to provide scientific lectures in connection with the regular "social" meetings through the winter.

In the evening the annual reception to the graduating class by the Alumni Association took place at Natatorium Hall. The annual oration was delivered by Clement B. Lowe, S. B., Ph. G., class of 1884, while the annual class oration was given by James E. Buckley, of Tacoma, Washington Territory. The class history was read by Joseph P. Williams, of Wilmington, Del.; and Clarence H. McCoy, of Lebanon, Ill., the class prophet, gave a forecast of "The Future of the Class." The prizes and prize certificates, as well as certificates to the newly elected members of the association, were presented. In addition to those above named, the Quiz Masters' medal was awarded to W. B. Cheney.

On the evening of March 17 the members of the graduating class and of the board of trustees of the college met in the museum to indulge in the banquet which is annually tendered by the professors. Cloths were spread for nearly 200 guests. During the evening Mr. Thos. S. Wiegand, the actuary of the college, was agreeably surprised by the class by being made the recipient of a handsome crayon portrait of himself. To Prof. Sadtler was presented a gold-headed cane, and Prof. Trimble a handsomely-bound set of Appleton's Encyclopædia. Toasts, speeches and songs followed. Among the latter must be mentioned one written for the class and entitled "The Jolly Pill-Rollers," well rendered by Mr. J. W. Harrigan, and chorus by the entire class. At a very late hour the participants departed well pleased with the evening's entertainment.

DEPARTMENT OF PHARMACY OF THE UNIVERSITY OF WISCONSIN.

The examinations of the students of the Department of Pharmacy of the University of Wisconsin were held during the last week of March, and consisted of written examinations in the several branches of study together with an examination in practical pharmacy by a Committee of the State Pharmaceutical Association composed of John A. Dadd, Milwaukee, Chairman; J. C. Huber, Fond du Lac, and C. R. Bechman, Fountain City. The following gentlemen, having had the required amount of practical experience and having passed successful examinations, will be recommended for the degree of Graduate in Pharmacy and receive their diplomas at the annual commencement of the University in June next: Louis A. Bauman, Racine; Joseph T. Bennett, Dodgeville; Benjamin F. Carter, Madison; Frank H. Fischedick, Milwaukee; William H. Hammersby, Jr., Lake Geneva; Edward Kremers, Milwaukee; Adolph F. Menges, Madison; Fred. O. Ray, Lake Mills; Frank H. Rhyme, Lake Geneva; Emil Weschcke, New Ulm, Minn. The gold medal of the State Pharmaceutical Association will be presented to Emil Weschcke of New Ulm, Minn., he having obtained the highest average in all the branches of study. The next regular session will begin Sept. 8, with present indications of a large class.

IOWA LICENTIATES.

Seventy-two applicants for registration have been examined since the January report of the Iowa Commission. Of these forty-three have failed, and twenty-nine have passed a satisfactory examination. Certificates of competency will accordingly be issued to the following "Registered Pharmacists" for the places annexed.

A. O. McMichael, Des Moines; Severin Miller, Davenport; Albert L. Yocom, Newbern; J. J. C. Bower, Centerville; A. W. McFarland, Dakota City; C. E. Ballard, Paullina; W. L. Nicholson, Fort Dodge; J. S. Draper, Boone; G. A. Steffa, Belle Plaine; Curtis Stream, Des Moines; Willard Chase, West Liberty; Frank A. Dean, Dunlap; W. B. La Force, Agency City; J. A. Rawls, Creston; Frank E. Sampson, Greenfield; William H. Grafton, Cambridge; William S. Baker, Pulaski; George T. Cole, Greene; P. A. Baldwin, Yarmouth; Chas. C. Shrader, Iowa City; Ed. E. Crady, Cherokee; J. A. Mulinix, Dows; Ernst Erickson, Northwood; Fletcher Howard, Sheldon; E. C. Lawrence, Waterloo; Richard Engbertson, Decorah; Geo. H. Holden, Washington; Frank B. Wiley, Marshalltown; Frank V. Kniest, Carroll.

In addition to these the following named have been registered as graduates of Colleges of Pharmacy that require four years of practical experience before granting a diploma:

B. F. Parnell, Creston; Jno. P. Echers, Ottumwa; C. K. Ross, Wilton; A. A. Agnew, Wilton; Joseph H. Atkinson, Sac City.

MINNESOTA LICENTIATES.

At the examination of the Minnesota State Board of Pharmacy held at Mankato, March 9, the following named applicants passed the ordeal with credit:

Bert. S. Colton, Fairmont; Hugh Scott, Stillwater; Jno. B. Ramage, Lake Benton; Otto F. Ekeroth, Minneapolis; Walter Nelson, St. Paul; John Mullaney, Minneapolis; John Schweitzer, Mapleton; M. L. Fernwalt, Minneapolis; J. A. Skallernd, M. D., Mabel; Miss Emma M. Combacher, Stillwater; W. G. Alwin, St. Paul; Silas J. Horn, Minneapolis; Julius Voje, Fort Snelling; John E. Thompson, Minneapolis; Albert J. Smith, Minneapolis; S. A. Schumacher, St. Paul; R. M. Wetzel, Minneapolis; W. A. Mussiber, St. Paul; F. R. Clark, Minneapolis; Yngvar Laws, Red Wing; B. B. Fullerton, Minneapolis.

There is a marked improvement in the grade of the examinees of the last two examinations, which conclusively shows that there is aroused a desire to stand forward and take a high rank in the corps of pharmacists, an ambition conspicuously absent a year ago when the major part of applicants would have been satisfied to go through on the minimum average. We look upon this change as one of the beneficent results of the pharmacy law.

R. O. SWEENY, Secretary.

MASSACHUSETTS STATE PHARMACEUTICAL ASSOCIATION.

Local Secretary Henry Canning, of Boston, announces that the fifth annual meeting of the Massachusetts State Pharmaceutical Association will be held at Boston, beginning Tuesday, June 1, 1886. In connection with the meeting, an exhibition will be arranged, for the display of drugs, chemical and pharmaceutical preparations, apparatus and literature, and druggists' sundries. Exhibitors will not be required to pay for use of hall, but will be expected to pay *pro rata* for all other expenses connected with exhibit proper. Wines or liquors will not be exhibited. Applications will not be entertained after May 15.

OHIO PHARMACEUTICAL ASSOCIATION.

The eighth annual meeting of the Ohio State Pharmaceutical Association will be held in Springfield, Ohio, Wednesday, June 2, 1886. On account of easy access to Springfield from all parts of the State, being nearly in the center, the attendance will be very large and the meeting very interesting. Manufacturing pharmacists, chemists, etc., etc., will find it to their advantage to exhibit this year at the Ohio meeting. All communications in reference to the exhibit should be addressed to Theo. Troupe, Springfield, Ohio.

QUARTERLY MEETING DAVENPORT (IA.) PHAR. ASS.

The Davenport Pharmaceutical Association held its regular quarterly meeting on Tuesday evening, April 6, being the sixth anniversary of its organization. Election of officers resulted as follows: President, A. Riepe; Vice-President, C. F. Jappe; Treasurer, J. W. Ballard; Secretary, J. H. Harrison. After disposal of routine business a general discussion was had concerning the pharmacy bill which had passed both houses of the Legislature (announcement having been received by telegraph), and the following, on motion of Mr. Ballard, was unanimously adopted:

WHEREAS, We believe the enactment of needed amendments to our pharmacy law which has just been accomplished is largely due to the efficient labors of the Committee on Legislation of the State Pharmaceutical Association (Messrs. Lichty and Schafer), therefore

Resolved, That we hereby acknowledge our appreciation of the services rendered, and tender the committeee our earnest thanks.

Resolved, That these expressions be spread upon the records of the association, and that the WESTERN DRUGGIST and National Druggist be requested to publish the same.

THE C. R. D. A. AND "CUTTERS."

For some months past the Executive Council of the Chicago Retail Druggists' Association has been considering ways and means of combating the operations of scalpers and maintaining prices on the line of goods known as "druggists' sundries." The result of its deliberations is presented in the following circular, which has been mailed to all druggists in the city:

TO THE DRUGGISTS OF CHICAGO: HOW TO HOLD YOUR TRADE AND AT FAIR PRICES.—The loss of trade to druggists by the operations of general retail stores, chiefly of the "cheap-John" description, is daily becoming more apparent and serious. The important trade in "druggists' sundries," comprising perfumery, toilet goods and allied articles, has especial attractions for mercantile "scalpers." These goods have heretofore been naturally considered the legitimate domain of the retail druggist, who has sold them at a fair profit and with entire satisfaction to the public; but a fair, honest profit is an abomination to the scalper, whose especial delight is an unfair margin whenever the public can be taken unawares and a dishonest profit through the sale of rejected, spurious, stale or adulterated goods.

If they really sell honest druggists' sundries, what is their primary object? To serve the interests of the public? No. To derive a legitimate mercantile profit therefrom? No. What, then, is their motive? Simply, by a policy of price-cutting, to bring druggists into contempt, to despoil their trade, to brand their charges as extortionate, and then, assuming the role of public benefactors, appropriating the trade to themselves and using it as a cloak to conceal all manner of extortions.

Unfortunately, they have been in great measure successful. The drift of the druggists' sundries trade is at present steadily and surely toward the scalpers. They practically dictate already to druggists in many localities the prices at which they must sell, on penalty of losing their trade. The alternative is presented, "Your profits or your trade." No compromise is possible under existing conditions. Wholesale druggists have confessed their inability to afford relief through withholding supplies to outside dealers. Should they refuse supplies, manufacturers themselves, jobbers in other cities or local brokers would be found eager for the service. As a last resort, many retail druggists are disposed to accept the challenge and let it be "war to the knife, and the knife to the hilt." Thus would the evil be extended and intensified.

Now, what is the remedy? How shall not only our trade, but just profits also, be regained and retained? A plan has been formulated by the Executive Council (in which your ward is represented by delegates) of the Chicago Retail Druggists' Association, which, in its main features, has worked successfully in other cities and States. It is as follows:

By action of the Executive Council the undersigned committee was authorized to proceed to the formation of a corporation to be known as the "Chicago Pharmacal Company," with objects:

(1) To contract with manufacturers for supplies of such druggists' sundries as are chiefly subject to cut prices.

(2) To own and control all copyrights, trademarks and other rights in labels, brands, etc.

(3) All such goods to be sold by the corporation to retail druggists in Chicago only, the policy of distribution being always with especial reference to keeping them wholly in the hands of druggists, and thus preventing competition in them from without.

(4) To provide for the maintenance of retail prices on all the company's goods.

(5) To promote the sale of these goods in preference to other brands, relying on the co-operation of each druggist to effect this result by duly recommending them to his customers, and pushing them into preferred recognition.

The corporation has been duly organized with a capital stock of $5,000 and 500 shares. It is proposed to give every retail druggist in Chicago the option of subscribing to one share ($10). When fully subscribed, the shareholders shall meet and elect a board of directors, to whom shall be committed, through its proper officers, the business management of the corporation. It is contemplated that at least one officer shall devote sufficient time to the work of the company and be provided with the requisite facilities for doing business. It is believed that the capital as above provided for will be sufficient for present needs.

Aside from the advantages to be derived from a share in the company in the way of protection from scalping competition, it is believed the dividends declared will represent a fair interest on the amount invested. It is proposed to buy for cash and to sell to shareholders at a fair margin over cost of goods, either for cash or on credit principles. Shareholders will buy of the company in precisely the same manner as they would of their jobbing house, and the company in turn will, so far as buying and selling are concerned, act upon the same principle with its customers.

The plan is feasible. With proper management, the company could not be otherwise than successful. It proffers the only remedy for the evils which now menace the prosperity and even the life of the retail drug trade. Your confidence and support is greatly desired. Shall we have it?

Mr. W. A. Weed, representing the company, will be pleased to call on you and receive your subscription to stock. To assist him and expedite matters, in the meantime please sign inclosed blank and forward same to him at 24 McCormick Block, as per inclosed envelope.

[By order of the Executive Council of the Chicago Retail Druggists' Association.]

(Signed by D. R. Dyche, Frank A. Druehl, Joseph H. Hubachek, W. K. Forsyth, John P. Lee, committee.)

At a meeting of the council held at the Sherman House on April 9, action was taken contemplating a thorough canvass of the city. We understand a large portion of the stock has already been subscribed. The present limit is one share to each druggist; when all have been given an opportunity to subscribe, the remaining shares can, from present indications, be readily disposed of.

At the same meeting of the council it was ordered that the fund of about $900 received in accordance with the action of the meeting of the contributors to the entertainment fund for the Illinois association, at its recent meeting in this city (the amount named being in excess of expenditures), be placed in the hands of three trustees to be expended under their direction when the Illinois association shall again convene in this city, the council reserving the right, however, to control such expenditure at said time according to its judgment. Messrs. Morris, Ebert and Myers were appointed such trustees.

The Massachusetts State Board of Pharmacy met at Springfield, on the 25th inst. Seven persons were examined. The successful examinees were E. A. Webster, of Springfield; and Messrs. Hodgkins and Thompson, the former of Keene, N. H., the latter of Adams, Mass. The next meeting will be held at the rooms of the Board No. 13 Beacon street, Boston, May 4.

Notes and News.

A new College of Pharmacy is talked of for Brooklyn.

Sulphuric ether has been found adulterated with petroleum ether.

The School of Pharmacy at Kansas University had twenty-five students at its first session.

The London Chemist and Druggist has taken a new departure, and now appears as a weekly.

Four New York candy-makers were arrested for selling "rock and rye" drops containing fusel oil.

Chas. J. Lander has purchased the interest of his partner in the firm of Birchard & Lander, Marshalltown, Iowa.

A new element, *germanium*, has been discovered by Winkler. It is similar to, but distinct from, antimony.

J. L. B., Fort Dodge:—We publish in this issue a complete list of the members of State Boards of Pharmacy.

Mustard mixed with the white of egg in place of water, will draw thoroughly without blistering the most delicate skin.

A society has just been formed by Chicago physicians for mutual protection against blackmail, employing a lawyer by the year.

A leading question now with scientific men seems to be is Hopein, a newly discovered alkaloid of hops, identical with morphine.

A large proportion of the "sherry" wine of commerce, since the trouble caused by the phylloxera, is said to be made from Florida oranges.

Seventy-three new doctors were turned over to the tender mercies of a hard, cold world by two of the medical colleges of Chicago last month.

The Massachusetts College of Pharmacy has already secured $25,000 toward the construction of a new building and will soon let the contract for the work.

Mr. Clark, a prominent druggist of Coldwater, Mich., has donated $12,000 to the city for public library purposes. Coldwater must be an exceedingly good point for the drug business.

and the "apothecaries' shops" are under Government supervision. All druggists are required to have in store all the drugs named in the "Pharmacopœia Neerlandica."

The new Iowa pharmacy amendment was violently assailed from all quarters, but the justice of its cause was such that it boldly faced every attack and finally won merited success.

Recently published statistics show the production of crude opium in India in 1883 to have been 8,071,120 pounds. The number of acres of land used in its culture was 876,454.

Colleges of pharmacy are multiplying at a rapid rate and will soon rival the medical colleges in point of numbers. A department of pharmacy has just been added to the University of Buffalo, making three in New York State.

The country is threatened with another deluge of "Dr. Walker's Vinegar Bitters." Litigation over proprietary rights, a circular informs us, has necessitated withholding the Vinegar blessing during the past ten years. Meanwhile, strange to say, the world has survived and the sun has shone with undiminished brightness.

In regard to the late expose of "Kaskin" the Am. Druggist remarks that "the name appears to have been appropriately chosen for the proximate principle usually put up in sugar-casks."

Emil A. Schaefer, the chemist at S. A. Kelley's drug house in Pittsburg, while handling some powd. cantharides, some of the dust got into his eyes, and it is feared he will lose his sight.

We have paper bottles, paper gas-pipes, shingles, pails, combs, etc., and now a paper chimney, nearly fifty-two feet high, has been recently built at Breslau. Next will come a paper stove, probably.

It is proposed, if sufficient support be forthcoming, to hold an international pharmaceutical exhibition in Geneva in 1888, in conjunction with a larger one of general interest which is being organized.

Henry Ward Beecher's son is in luck, having, as collector of Portland, Oregon, seized $45,000 worth of opium, which was being smuggled as "furs." Mr. Beecher received $25,000 as his share of the spoils.

Mr. Peter Van Schaack has just returned from a visit to his lead mine interests in Missouri, and a pleasure trip through Arkansas and Texas, with a party of friends, who seem to have had a most enjoyable time.

Harry McDowell, of Grand Rapids, Mich., charged with furnishing medicine for illegal purposes, causing the death of a young lady at Howard City, Mich., last January, was found guilty by a jury of the superior court.

From nearly all directions come reports of better trade, and the indications point to a good spring business, save in the districts affected by the railroad strikes, where the difficulty of procuring stock may cut some figure.

At the annual election of officers of the Minnesota Board of Pharmacy Hon. Stephen L. Crocker, of Faribault, was made president to succeed Dr. T. F. Stark, who declined re-election. Mr. R. O. Sweeny was re-elected as secretary.

Mr. Henry W. Fuller, late of the wholesale drug firm of Fuller & Fuller, Chicago, has recently returned from the Bahama Islands, where, with his family, he has been enjoying the blessings of that tropical clime the past winter.

The loss in weight of quinine sold in cans was reported upon by W. A. Spalding to the Connecticut Pharmaceutical Association. The loss sustained in five ounce cans varied from 8 to 11.39 per cent. It is suggested that quinine be dried to a constant weight by manufacturers before being offered for sale.

A young drug clerk, 19 years of age, living with his parents in Chicago, committed suicide by taking morphine, on the night of March 31. When discovered he was past aid He had been idle some time, and it is supposed that despondency at his failure to secure employment was the incentive to the rash act.

The physicians and pharmacists of Pittsburg are indulging in a quarrel over their relations, the physicians accusing the druggists of counter-prescribing, and threatening boycott. This discussion is perrennial in habit, and will never be satisfactorily settled, but it seems to us that as

long as the physicians prescribe nostrums, write testimonials for them, thus, in a measure, introducing them, this fight will always remain, as a correspondent puts it, "a kind of a pot and kettle fight, with the physicians' pot a little the blacker..'

A medical journal styles Beef, Iron and Wine a "fashionable tipple" and a "popular abomination." The medical profession were the ones to make it popular. And now that their patients will buy it without a prescription it becomes an "abomination."

A correspondent of the Druggist's Circular reports an explosion from Potassium permang. with water and Syrup Orange prepared from "rock candy syrup," giving as a solution of the difficulty that the syrup was glucose, sweetened with glycerin; if this be the case, "rock candy syrup" should be looked after.

The Chicago Pharmacal Association, with a capital of $5 000, has been incorporated by the Chicago Retail Druggists' Association, the purpose being to control the use of labels and trademarks in connection with druggists' specialties of fine quality, and to engage manufacturers to put them up in this special form.

Patini, a physician of Palagonia, in Sicily, claims to have used a system of vaccination for rabies in his practice for the past nine years, identical with Pasteur's method. Patini says he met with success when the conditions were at all favorable. If his previous discovery was bona fide, he is rather late in making it known.

We have complaints respecting the operations of "Wright & Co., Drugstore Brokers" of this city. This journal refused their advertisement but we observe that several of our exchanges still carry it. Mr. Peter Van Schaack desires us to state that the use of the name of his firm as one of the "references" is wholly unauthorized.

A young man employed in the drugstore of Frank Hendees, at Brighton, Ohio, found a dynamite cartridge in the cellar of the building March 26. The fuse had been ignited, but went out before reaching the explosive. The infernal machine had been tossed into the cellar through an open window. Certain persons known to have made threats against Hendees are suspected of the crime.

Prof. Oscar Oldberg has resigned the chair of Pharmacy in the Chicago College of Pharmacy, and has been succeeded by Prof. E. B. Stuart, who is known to many of our readers through his former editorial relations to this journal. We understand Professor Oldberg proposes to devote his time, aside from his literary labors, to pharmaceutical technology and analytical chemistry, for which work his talents and reputation particularly qualify him.

The number of apothecaries in the U. S. navy at the present time is about sixty. They are rated as petty officers of the first class. The salary is $60 a month in all cases, except Annapolis,Md., Mare Island, Cal., and the Naval Dispensary at Washington, D. C., at which stations, by special act of Congress, the salary was made $1,000 per year. They must be good pharmacists, so far as compounding prescriptions and the nature and actions of different drugs are concerned.

A Baltimore dispatch states that the Brown Chemical Company, of that city, have begun heavy suits against Frederick Stearns & Co., Detroit, Mich., for imitating Brown's Iron Bitters, and against Meyer Bros. & Co., the well-known druggists of St. Louis, Mo., for dealing in Brown's Iron Tonic, which it is claimed is an imitation of Brown's Iron Bitters, and against James A. Dickinson, a wealthy druggist of Baltimore, for selling and recommending a non-secret remedy called Iron Tonic Bitters, made by Koshland, Hollander & Co., of Baltimore, which, it is also claimed, is an imitation of Brown's Iron Bitters. These suits will likely involve very heavy amounts, and be watched with interest by all persons dealing in proprietary medicines.

New York State is prolific lately in new colleges of pharmacy. One has been organized at Brooklyn and one at Buffalo. The faculty at the latter are: Rudolph A. Whitthaus, A. M., M. D., professor of pharmaceutical chemistry; E. V. Stoddard, A. M., M. D., professor of materia medica; Willis G. Gregory, M. D., professor of pharmacy; David S. Kellicott, Ph. D., professor of botany; Frank P. Vanderberg, M. D., professor of general and inorganic chemistry.

The Iowa Commission of Pharmacy has revoked the certificate of registration of Warren A. Crosby, of Mason City, for violation of the pharmacy law. The commission ha been busy preparing a pamphlet to be sent to county auditors, clerks of courts, justices of the peace and registered pharmacists, as soon as it can be got ready. It will contain an official circular from the commission, a full text of the pharmacy law of 1880, as amended by the general assembly of 1882, and the new act just passed, with the regulations of the board to date.

Recently the members of the faculty of the Department of Pharmacy of Kansas University entertained the Board of Examiners. Plans for the good of the department were discussed, and a cordial feeling established among all present. A very pleasant and profitable evening was certainly had by professors and guests. Those present were: R. J. Brown, of Leavenworth; A. E. Barnes of Topeka; B. W. Aldrich, of Wichita; George Leis, of Lawrence; B. W. Woodward, Chancellor Lippincott, Professors Sayre, Bailey, Snow and Robinson.

Robberies of drugstores and druggists at late hours of the night seems to be a favorite occupation of Chicago burglars at the present time. One druggist had the audacity recently to dispute the right of one of these gentry to the contents of his cash drawer and to grapple with his assailant, but the arrival of two accomplices soon convinced him of his error. Druggists who are obliged to keep late hours in dangerous neighborhoods should either go armed or give no cause for suspicion of being otherwise than wholly impecunious.

London is the greatest drug market in the world. Twice a month sales take place, when $2,000,000 to $3,000,000 worth of drugs may be sold in an hour; $50,000 worth of musk are sold every two weeks at one of these sales, which was witnessed by Mr. F. Stearns; 22,400 packages of drugs of various kinds were disposed of. At this sale twenty-five cases, of 150 pounds each, of vanilla flavored benzoin, worth from $2 to $3 a pound, were snapped up by perfumers. Ivory sales occur once in three months. Mr. Stearns saw one lot of twenty-five tons, representing 5,000 elephants.

Prof. Austin Flint, Sr., M. D., of New York, died suddenly, of cerebral paralysis, Saturday, March 13. As an author, lecturer, editor and consulting physician, he was world-renowned. For upward of forty years Dr. Flint has stood at the head of his profession, beloved and honored by his colleagues, not only in this country, but in Europe. He lived a life of usefulness, even beyond the allotted time of man, going to rest after a busy and weary pilgrimage of seventy-four years. He has left many monuments, and his memory will be ever revered by his followers.

NEW JERSEY BOARD OF PHARMACY.—At the March meeting there were nine applications for examination; the following, having responded satisfactorily, were awarded certificates of the board: Frederick J. Wulling, Carlstadt; Isaac M. Foster, Newark; Thomas F. Morgan, J. F. Schmidt, Paterson; Joseph Witkin, Union Hill. The following graduates in pharmacy were registered: Lewis C. Barlow, Joseph I. Matthias. The next meeting of the board of examination will be held at the rooms of the City Dispensary, Camden, Thursday, April 15, at 10 A. M.

NEW YORK COLLEGE OF PHARMACY.

The commencement exercises of the college at Steinway Hall were an occasion of exceptional interest. Eighty four students were graduated. G. A. Palmer, Jesse L. Peck and O. C. B. Grom taking the gold, silver and bronze medals respectively. The officers elected were: President, Ewen McIntyre; Vice-Presidents, Henry J. Menninger, Gustavus Ramsperger and George C. Close; Treasurer, David Hays; Secretary, J. N. Hegeman; Trustees, each to serve three years, H. W. Atwood, S. J. Bendiner, B. F. McIntyre, W. M. Massey and H. Schmid. The Alumni Association of the college held their annual meeting March 29. The election of officers resulted in the choice of the following persons: President, B. Frank Hays; Vice-President, F. Hohenthal, Thomas Starr, G. Arthur Palmer; Treasurer, D. Peraza; Secretary, Charles F. Heebner; Trustees, Arthur C. Searles, J. Oehler.

MARYLAND COLLEGE OF PHARMACY.—The thirty-fourth annual commencement was held at the Grand Opera House on the afternoon of March 18, the degree of Ph. G. being conferred by President Dr. Jos. Roberts upon the following twenty-eight candidates: Chas. Ammen, A. M Binau, J. Emory Bond, Chas. B. Chapman, T. Wilber Chelf, W. A. Conway, Chas. C. Cook, W. M. Fouch, William Goodrich, C. L. B. Hines, Alfred Lapouraille, William Lentz, Oscar F. Leonhard, J. S. McFee, Howard D. Mills, Chas. H. Moore, T. J. V. Morris, Dietrich F. Onnen, Oscar E Ross, A. Row, George Ruhl, George A. Ruths, John M. Scott, Clarence R. Shryer, Henry C. Spetzler, W. H. Stewart, Silas A. Updegraff, and C. H. Ware. The prizes, consisting of gold medals, were awarded: First prize to C. Ammen; second to C. L. B. Hines; third to J. S. McFee; Simon analytical prize to T. W. Chelf. Practical Pharmacy prize to S. A. Updegraff; and Junior prize to A. F. Whiteside.

THE NEW LAW REGULATING SALES OF LIQUORS BY DRUGGISTS IN IOWA.

We sincerely congratulate the druggists of Iowa on the new legislation received relating to sales of liquors. It is certainly all and more than might reasonably have been expected. Great credit is due Messrs. Schafer and Lichty for their masterly activity which has achieved so decisive a victory for the pharmacists of the State. Following is the full text of the act:

CHAPTER 83.

An act to amend chapter 75, of the acts of the Eighteenth General Assembly, and chapter 137, of the acts of the Nineteenth General Assembly, relating to the practice of pharmacy:

Be it enacted, etc. SECTION 1. That section 3, chapter 75, of the acts of the Eighteenth General Assembly be and the same is hereby amended by adding thereto the following, to-wit: Except that the Secretary of State is authorized to furnish said commissioners with stationery and blanks necessary for their office. And said commissioners are authorized to administer oaths, and take and certify the acknowledgements of instrumen's in writing.

SEC. 2. That section 8 of chapter 75, of the acts of the Eighteenth General Assembly be repealed, and the following enacted in lieu thereof:

SEC. 8. Pharmacists whose certificates of registration are in full force and effect, shall have the sole right to keep and to sell under such regulations as have been or may be established from time to time by the commissioners of pharmacy, all medicines and poisons including intoxicating liquors only for the actual necessities of medicine; Provided, that such pharmacists shall have procured permits therefor as hereinafter prescribed. Provided further, that nothing herein contained shall be so construed as to shield the person who in any wise abuses this trust, for the legitimate and actual necessities of medicine only, from the utmost rigors of the law, now or hereafter in force relating to intoxicating liquors, and in addition thereto, for a second violation thereof, his name shall be stricken from the register by the commissioners of pharmacy upon receipt of transcript of conviction, which shall be transmitted by the court or by order of the court, before whom conviction is had. Twenty-five per cent. of all moneys recovered as fines under the provisions of this act shall be paid into the State treasury, and reported to the State Auditor, and held subject to the order of the commissioners of pharmacy as needed, to be by them used solely to defray the expenses of prosecutions, under, and the enforcement of this act or acts to which this is amendatory. In order to procure a permit to sell intoxicating liquors as aforesaid and a shipping permit he shall present to such board of supervisors a petition signed by at least one-fourth of the free-holders having the qualification of electors of the township, town or ward wherein such business is located, certifying that the registered pharmacist applying is a person of good moral character, is not a minor, and is, and for the six months last preceding has been lawfully conducting a pharmacy as proprietor in such township, town or ward, and that they believe him to be a proper person to buy and sell intoxicating liquors for the purposes named in this act. The board being satisfied that all the provisions of the law have been complied with, a permit shall be issued. Provided, however, that any resident of the township, town or ward may appear and show cause why such permit should not be granted, and the same shall be refused unless the board are fully satisfied that all the requirements of the law have been complied with, ten days' notice of the time of granting such permit having been given by publication in a newspaper published in the county, or by posting notices in the township, town or ward in which the business is to be conducted. The county auditor shall issue to such pharmacist, his certificate of registration and his permit to sell being in full force and effect, a permit to receive intoxicating liquors within the county in which he does business, and the presentation of said permit to any railway company, express company or common carrier within the borders or traversing the territory of the State, shall convey full authority to receive, transport and deliver intoxicating liquors to the person named in such permit; Provided, that such permit shall be for specified packages and kinds of liquors, and that a certified copy of such permit shall be kept on file in the office of the auditor issuing the same. The commissioners of pharmacy shall, on the revocation or forfeiture of any certificate of registration, subsequent to their last biennial report or abstract of the State pharmacy register, report such revocation or forfeiture to the county auditor of the county wherein such certificate was last in force. On or before the tenth day of each month said pharmacist shall make to the county auditor a complete report, verified by his affidavit specifically showing all sales of intoxicating liquors made during the preceding calendar month to whom sold, and the purpose for which the same was to be used as represented by duplicate applications executed by each purchaser. The registered pharmacist to whom application is made shall refuse to execute same, if he has reason to believe the application is not made in good faith, and that the liquor would be used as a beverage. He shall not accept an application from a minor or from any person who is in the habit of becoming intoxicated, or when any relative of such person has given written notice to said pharmacist that such person uses intoxicating liquors as a beverage. The drinking of intoxicating liquors in a pharmacy, whether under a permit or not, shall be presumptive evidence that the same was sold or given away by such pharmacist, contrary to law.

SEC. 3. That section 2, of chapter 137, of the acts of the Nineteenth General Assembly, be and the same is hereby amended by striking out the words "twenty-five" in the eighth line and inserting in lieu thereof the words "one hundred nor more than two hundred," and by striking out

the word "one" in the ninth line of said section and inserting in lieu thereof the word "two."

SEC. 4. That section 12 of chapter 75, of the acts of the Eighteenth General Assembly, as amended, be and the same is hereby repealed, and the following enacted in lieu thereof:

"SEC. 12. Physicians dispensing their own prescriptions only, are not required to be registered pharmacists. Provided, that nothing in this act shall prevent any person not a registered pharmacist or not holding a permit, from keeping and selling proprietary medicines, and such other domestic remedies as do not include any intoxicating liquors or poisons."

SEC. 5. This act being deemed of immediate importance shall take effect and be in force from and after its publication in the Iowa State Register and the Des Moines Leader, newspapers published at Des Moines, Iowa.

Approved April 7, 1886. Published April 8, 1886.

VIRGINIA PHARMACY LAW.

We present the essential provisions of the Virginia law recently enacted:

SECTION 1. Provides for the incorporation of the Virginia Pharmaceutical Association.

SEC. 2. States the objects of such Association—to unite the pharmacists and druggists for mutual aid, encouragement, improvement, etc.

SEC. 3. Declares that after the passage of the law it shall not be lawful for any person "other than a registered pharmacist or practicing physician" to open or conduct a pharmacy or drugstore unless such person shall employ or place in charge of such store a registered pharmacist. Provided, that nothing in the act "shall prevent the sale by merchants of quinine, epsom salts, castor oil, essence of peppermint and other flavoring preparations, calomel, camphor, iodide, bromide and chlorate of potassa, opium, paregoric and sweet oil, and such other domestic and proprietary remedies as are usually kept by retail dealers;" but the sale of laudanum, morphine and proprietary medicines must be in sealed packages as obtained from druggists.

SEC. 4. Any person to be registered must be a graduate of some college in pharmacy recognized by the Virginia Pharmaceutical Association, or shall have had at the passage of the act three years' experience in pharmacy, or shall pass an examination before the Board of Pharmacy.

SEC. 5. Defines the powers and duties of the Board of Pharmacy and the manner of its appointment which shall be by the Governor upon the recommendation of the State Pharmaceutical Association. The term of members is five years. The Board is empowered to "examine into and adjudicate upon all cases of abuse, fraud, adulterations," etc., and to enforce all the provisions of the law and to report all cases of violations to the proper State authorities. The Board shall also examine all persons applying for registration and grant certificates to such as may be entitled thereto.

SEC. 6. Pharmacists desiring to be registered on the ground of having had three years' experience when the act passed, must file their application within ninety days from such time. But nothing in this section shall apply to persons in business on their own account when this act takes effect.

SEC. 7. The fee for registration of proprietors shall be two dollars, and for persons in the employ of others one dollar. All moneys received shall be applied to the payment of the expenses of the Board of Pharmacy, the surplus, if any, going to the Association. Each member of the Board shall receive five dollars per day for each day of service which, with the salary of the Secretary, shall be paid from fees received from the provisions of the law.

SEC. 8. Holds every person responsible for the quality of drugs and medicines sold (except those sold in original packages) and prescribes a penalty not exceeding $100 for adulterations. All pharmacists continuing in business shall renew their certificate annually at a cost of one dollar.

SEC. 9. Requires the labeling and registration of poisons.

SEC. 10. Relates to the exemption of physicians who do not keep "open shop for the retailing of medicines."

SEC. 11. Prescribes a penalty of not exceeding twenty-five for violations of the act, which are also deemed misdemeanors.

The concluding sections exempt registered pharmacists from jury duty.

We regret that lack of space prevents the publication this month of the exceptionally good law of the Territory of Wyoming.

PENAL CODE OF MINNESOTA.

Following are the sections of the new penal code of Minnesota, relating to druggists, approved March 9, 1885:

SECTION 326. *Apothecary Omitting to Label Drugs or Labeling Them Wrongly.* — An apothecary or druggist, or a person employed as clerk or salesman by an apothecary or druggist, or otherwise carrying on business as a dealer in drugs or medicines, who, in putting up any drugs or medicines, or making up any prescription, or filling any order for drugs or medicines, willfully, negligently or ignorantly omits to label the same, or puts any untrue label, stamp or other designation of contents upon any box, bottle or other package containing a drug or medicine, or substitutes a different article for any article prescribed or ordered, or puts up a greater or less quantity of any article than that prescribed or ordered, or otherwise deviates from the terms of the prescription or order which he undertakes to follow, in consequence of which human life or health is endangered, is guilty of a misdemeanor.

SEC. 327. *Apothecary Selling Poison without Recording the Sale.* — An apothecary or druggist, or a person employed as clerk or salesman by an apothecary or druggist, or otherwise carrying on business as a dealer in drugs or medicines, who sells or gives any poison or poisonous substance, without first recording in a book, to be kept for that purpose, the name and residence of the person receiving such poison, together with the kind and quantity of such poison received, and the name and residence of some person known to such dealer as a witness to the transaction, except upon the written order or prescription of some practicing physician whose name is attached to the order, is guilty of a misdemeanor.

SEC. 328. *Refusing to Exhibit Record.*—A person whose duty it is by the last section to keep a book for recording the sale or gift of poisons, who willfully refuses to permit any person to inspect said book upon reasonable demand made during ordinary business hours, is punishable by a fine not exceeding $50.

SEC. 329. *Selling Poison without Label.*—A person who sells, gives away or disposes of any poison or poisonous substance, without attaching to the vial, box or parcel containing such poisonous substance, a label with the name and residence of such person, the word "poison," and the name of such poison, all written or printed thereon in plain and legible characters, is guilty of a misdemeanor.

SEC. 330. *Medical Prescriptions.*—No person employed in a drugstore or apothecary shop shall prepare a medical prescription unless he has served two years' apprenticeship in such a store or shop, or is a graduate of a medical college or a college of pharmacy, except under the direct supervision of some person possessing one of those qualifications; nor shall any proprietor or other person in charge of such store or shop permit any person not possessing such qualifications to prepare a medical prescription in his store or shop, except under such supervision. A person violating any provision of this section is guilty of a misdemeanor punishable by a fine not exceeding $100, or by imprisonment in the county jail not exceeding six months; and in case of death ensuing from such violation, the person offending is guilty of a felony, punishable by a fine not less than $1,000 nor more than $5,000, or by imprisonment in the State prison not less than two years nor more than four years, or by both such fine and imprisonment.

SEC. 331. *Adulterating Food, Drugs, Liquors, etc.*—A person who, either

1. With intent that the same may be sold as unadulterated or undiluted, adulterates or dilutes wine, milk, distilled spirits, or malt liquor, or any drug, medicine, food or drink for man or beast; or

2. Knowing that the same has been adulterated or diluted, offers for sale or sells the same, as unadulterated or undiluted, or without disclosing and informing the purchaser that the same has been adulterated or diluted, in a case where special provision has not been otherwise made by statute for the punishment of the offence, is guilty of a misdemeanor.

SEC. 332. *Disposing of Tainted Food.*—A person who with the intent that the same may be used as food, drink, or medicine, sells, or offers, or exposes for sale, any article whatever, which, to his knowledge, is tainted or spoiled, or for any cause unfit to be used as such food, drink or medicine, is guilty of a misdemeanor.

THE WESTERN DRUGGIST.

VOL. VIII. No. 5. MAY 15, 1886. Subscription Price, $1.00 per annum. G. P. ENGELHARD & CO., Chicago.

COMMERCIAL PANCREATINS.*

BY H. W. SNOW, PH.C., DETROIT.

[We are, for want of space, obliged to condense the original paper by Mr. Snow, and here present only some of the most important and original items which it contains. After reviewing by way of introduction the general process of digestion, the writer proceeds to dwell at greater length upon the pancreatic juice and particularly upon the isolated ferments commercially termed pancreatin. It is this portion of the paper which it is desirable to give further notice.—ED. W. D.]

Upon theoretical grounds the introduction of the digestive ferments, particularly of the gastric juice and pancreatic juice, as artificial aids to digestion promised much from a physiological and therapeutic point of view, but the great expectations originally entertained have scarcely been realized, though they still occupy an important position in medicine. Technical literature teems with articles upon gastric digestion and the subject of pepsin and its digestive power, but upon the pancreatic juice or particularly pancreatin, there is little to be found.

As a result of various investigations of the pancreatic juice it is conceded that it contains three distinct ferments known respectively as *amylopsin* (pancreatic diastase) which alters starch, converting it into glucose, maltose (?), dextrin, etc.; *trypsin*, or the proteolytic enzyme which digests albumen with the formation of peptones and parapeptones; and *steapsin*, or the ferment to which it owes its power of emulsifying fats.

When originally introduced pancreatin was specially intended for the digestion of fats to be employed in the treatment of consumption and other wasting diseases, but thus far, as found in commerce, it has not justified these expectations. On the other hand, it has found large use in peptonizing milk and some other nitrogenous foods for use where a diseased stomach refuses to retain food not partially digested. In estimating the value of commercial pancreatin all three of its ferments have been made the basis of tests, but it would seem that the best one to employ would be the estimation of the activity of the trypsin, as it is this ferment which particularly gives it a therapeutic and consequently commercial value. There are also other reasons which will appear later on why this is to be preferred. So far as the writer is aware, no standard of strength has ever been adopted for pancreatin, either official or by private individuals of good authority.

It has been hinted, however (Proc. of Amer. Phar. Asso.) that of a good pancreatin one grain should emulsify one fluid-drachm of cod liver oil in the presence of a small amount of bi-carbonate of soda. If this is the standard to which all our pancreatin must conform, the writer's experience would say that few and far between are they which can meet this requirement. This supposed action on fats, it seems to the writer, is not so satisfactory a test as it might be, as it does not yield data which enables us to say of three pancreatic extracts that "B" is better than "A," but not as good as "C," and other reasons will appear later on. W. Roberts (Jour. Chem. Soc., November, 1881; Am. Jour. Phar., January, 1882) proposed a process for the valuation of pancreatic extracts to which the writer has resorted in testing a number of samples of pancreatin, which is briefly as follows:

Diastatic Value.—In determining the diastatic value, a standard solution of starch containing one per cent. is required; 10 C.c. of this solution are diluted with 100 C.c. distilled water, and is then ready for use.

The writer prepared the pancreatin for testing in the following experiments by treating one gram with 100 C.c. of water, and allowing the mixture to stand several hours before using, in order to insure complete solution of the active portion of the samples. All of the pure pancreatins so treated left large residues insoluble in water, though pure pancreatin is said to be slowly but completely soluble in water; the saccharated pancreatins, of course, dissolved to a much greater extent proportionate to the weight taken, owing to the sugar of milk with which the pancreatin was mixed. One cubic centimeter of the solution obtained above is then treated with a definite number of cubic centimeters of the diluted starch solution and digested five minutes at a temperature of 40° C. (104° F.), after which time a drop of dilute solution of iodine in potassium iodide and water is added in order to determine whether the starch has been completely saccharified by the pancreatin. It requires several trials in order to fix the exact "achromic" point, as it is called. Following is a series of trials made in the examination of a sample of pancreatin, and which illustrate a method of procedure leading to the desired results. [The positive sign (+) indicates that a reaction for starch was obtained, while the negative sign (—) shows that no reaction for starch followed the addition of iodine]:

Pancreatin Solution employed.	Starch Solution added.	
1 C.c.	10 C.c.	—
1 "	13 "	—
1 "	15 "	+
1 "	14 "	—

The value now lies between 15 cubic centimeters and 14 cubic centimeters. About 3 C.c. of starch solution to 1 C.c. of pancreatin solution will be a convenient starting point in testing a saccharated pancreatin, while of a pure pancreatin 10 C.c. of starch solution would be better. Some difficulty is met with in determining the exact "achromic"

point, owing to the formation of some of the many intermediate products which accompany the change of starch into saccharine compounds under the influence of many other ferments which have been more thoroughly studied than this. These intermediate products give a varying color with iodine solution, and have a tendency to obscure the final determination. As they are double, or mostly so, and probably in an assimilable form, the writer concluded that it would be proper to regard them as entirely complete products of the action of the ferment, and did not attempt to obtain a complete conversion of the starch into such compounds as would give no color whatever with the iodine solution. Simple failure to give the blue color was considered sufficient without regard to the actual color produced†. These facts render this process objectionable, as it is scarcely practicable to *estimate the saccharine bodies* formed by this ferment, first, on account of the doubt as to just which saccharine substances is formed, and the probability that there are several, some reducing and others not reducing Fehling's solution; second, because the quantities formed are too small for accurate estimation.

Following are the results obtained on examining several samples of pancreatin with regard to their diastatic value. The numbers given are the number of C.c. of standard starch solution referred to, which 1 C.c. of the solution of the pancreatin prepared as already given, was capable of converting in five minutes at 40° C. into compounds not giving a blue color with solution of iodine; one to six inclusive are pure pancreatins, also Nos. 14 and 15, the others are saccharated pancreatins:

		Amt. starch solution.				Amt. starch solution.
No. 1.	Saccharified	19 C.c	No. 8.	Saccharified	2¼	C.c.
" 2.	"	14 "	" 9.	"	3½	"
" 3.	"	5 "	" 10.	"less than	½	"
" 4.	"	4 "	" 11.	" " "	½	"
" 5.	"	1 "	" 12.	"	¾	"
" 6.	"	1 "	" 13.	"less than	½	"
" 7.	"	4 "	" 14.	"	2½	"

PROTEOLYTIC VALUE,

or the power of pancreatin to digest albuminoids, is determined by its action on milk. When milk is treated with pancreatin, at a temperature of 40° C., after a time it reaches a point at which it curdles distinctly on boiling. This point is called the "*on set*" point. But if the action is allowed to continue it reaches a point when it not only loses the power of curdling by boiling, but even strong acids fail to curdle the milk, showing that its casein has passed through a series of changes to the final peptone. The body, which curdles on boiling, is known as meta-casein. For the purpose of convenience, the writer uses the term meta-peptonized milk (signifying between peptonized milk and unaltered milk), to designate milk which has reached the point of curdling by boiling, and to distinguish it from unaltered milk, also from milk the casein of which has been completely converted into peptone. The "on set" point is more easily obtained, and seems to be more reliable than the action of the ferment on starch. The albumen of milk is one of its most uniform constituents, its percentage being remarkably constant. However, to obtain the most reliable comparative results between two or more samples of pancreatin it would be better to test from the same sample of milk. One cubic centimeter of the solution of pancreatin is allowed to act on a definite volume of milk for five minutes at 40° C.; at the end of which time, if the milk has been meta-peptonized, it will curdle distinctly on boiling, which will be easily seen by throwing the milk onto a dark surface where it can spread, while if meta-peptonization has not taken place no curdling will ensue. The numbers of the following samples (each representing 1 C.c.) correspond to those given in the determination of the amylotic value:

		Amt. milk.			Amt. milk.
No. 1.	Metapeptonized	29 C.c	No. 9.	Metapeptonized	½ C.c
" 2.	"	39 "	" 10.	"less than	½ "
" 3.	"less than	1 "	" 11.	" " "	½ "
" 4.	"	5 "	" 12.	" " "	½ "
" 5.	"	4½ "	" 13.	"	2½ "
" 6.	"	None.	" 14.	"less than	½ "
" 7.	"	1 "	" 15.	"	16 "
" 8.	"less than	½ "			

The writer relies very largely on this latter test in the valuation of pancreatin, and regards a pancreatin as being of good commercial quality when 1 centigram in solution in small amount of water will meta-peptonize twenty to thirty cubic centimeters of milk in five minutes at 40° C. It is also desirable to note carefully the quality of the peptonized or meta-peptonized milk which the pancreatin yields.

EMULSIFYING POWER.

The emulsifying power of pancreatin seems to be exceedingly capricious; and though each of the above thirteen samples was tried as regards this property under all kinds of circumstances which seemed to promise any better results—in acid, in alkaline and in neutral solution—with small quantities of water and large, etc.; it was without avail. Not one of them would give an emulsion in the true sense. All would separate sooner or later, which was at most an hour or two. The best results seemed to be obtained in acid solution, contrary to the general supposition. The samples employed in the foregoing examinations were all obtained in original packages through parties in New York, and all purchased at the same time for the purposes of this work. One thing growing out of these experiments well worthy of note is that, generally speaking, in those samples whose proteolytic value was marked the diastatic value was also good, while on the other hand many samples retained their diastatic value when their emulsifying and peptonizing powers were practically non-existent. This, together with the fact that about three months after the samples one and two were tested, they were again examined, and it was found that their diastatic value remained practically unchanged, but the proteolytic value had altered considerably for the worse. These considerations lead the writer to think that possibly the relative rates of decomposition might vary, and judging from the general tenor of the case the rapidity of decomposition would be that the steapsin was most easily decomposed, while the amylopsin was most stable. Still further evidence in favor of this supposition will be found by again glancing at the tables giving their comparative values. In numbers one and two, whose emulsifying powers were, though poor,

†The writer desires to note that J. W. Duggan (Amer. Jour. of Phar.), in estimating the diastatic value of malt extracts, lays special emphasis on the unreliability of the iodine test for starch in the presence of dextrines, "the color produced being dependent on the amount of iodine added, the temperature of the solution, and various conditions other than the extent of conversion."

better than any of the others, we find a powerful amylotic and proteolytic action; further, the numbers expressing their proteolytic value are greater than the numbers expressing their amylotic value; while in a majority of the remaining cases (and all these being decidedly inferior articles have evidently undergone decomposition either during the course of manufacture or afterward) the numbers expressing the diastatic value being greatest while the proteolytic valuations are least. These general facts, though not establishing positively the fact that the relative rates of decomposition are as stated, seem to justify a legitimate supposition that such is the case, making it well worthy of further study by physiological chemists. The fact that when the proteolytic value is good the diastatic value is also good, is another reason why this test is a convenient one for estimating the value of pancreatin, one test frequently being sufficient to assure the examiner that in other ways the sample will also be good.

PATENT MEDICINES.

BY JAS. G. KIERNAN, M. D.

Conscientious men to whom the evils of the patent medicine traffic are known are prone to look upon as purely mercenary the zeal in recommending patent medicines displayed by members of all the professions. This is not surprising, considering that patent medicines are an odious monopoly, that monopoly advocates are rarely, if ever, possessed of a conscience, and that patent medicine men, like other monopolists, are guilty of influencing legislative action by scandalous means.

A flagrant instance of such interference with the course of legislation was narrated by Judge Hull (American Journal of Neurology and Psychiatry, 1885), in a debate on this topic before the New York Society of Medical Jurisprudence and State Medicine. Some twenty-five years ago a physician, a neighbor of Judge Hull, went to Congress. He prepared a bill against the sale of nostrums on the ground of false pretences. It simply called for a label on all proprietary medicines, giving a list of their ingredients and their proportion. After the third reading opposition began. Some members were bought over, some talked over, and others humbugged over, to do what? To expose all their friends, children and children's children to poisoning. The bill was defeated by influences usually potent with legislatures. Afterward meeting one of the men who had been instrumental in defeating the bill, Judge Hull asked him how he succeeded. He said: "Why, as soon as I saw the bill was being pressed forward, I telegraphed to several prominent houses in various cities of the Union, and in a short time had $300,000 placed at our disposal to defeat the bill."

Nor is the character of some of the professional men who recommend patent medicines in all cases above reproach. The physicians, who insist on percentages on prescriptions, would certainly not hesitate to laud anything on which they could get a percentage. The physicians, who save their drug bills by writing laudations of drug firms in medical journals, are not above writing daily laudations of patent medicines; but most certificates are, however, written with evident honesty. Mark Cook, who lauded the Adirondacks as a curé for consumption, really believed that he was cured of the consumption, from which he died. Schuyler Colfax's mother-in-law undoubtedly believed that Cundurango cured the cancer which caused her death. Most of the certificates are due, not to cupidity, but to stupidity; against which, as Schiller says, the gods themselves fight in vain. Any appeal to the emotion of wonder finds ready acceptance in the average mind. There is great scope for wonder in the unknown composition of patent medicines. The wonder which is expressed ordinarily in an extravagant story finds vent in a recommendatory certificate. Honest clerical, legal and journalistic certificates are not infrequent, nor does medical education destroy stupidity, since physicians long lauded the anti-periodic virtues of macalline, a simple calcium sulphate. That mercenary motives play but little part in many patent medicine certificates is very strikingly illustrated in the extravagant verbal laudations by sane people of an "Elixir of Life" sold under the following circumstances: Dr. Clouston (Mental Diseases) says, speaking of the delusions of his insane patient: "The gentleman who has discovered the new elixir of life wrote out an advertisement which would have done credit to the most successful patent medicine proprietor. He used to make it up in the asylum, and wanted much to try it on the patients, but none of them believed in him, or would take his nostrum. But he was allowed to go out for a walk into town occasionally, and I found that he used to take a few of his bottles with him, and sometimes sold them at five shillings ($1.20) apiece—this lunatic—to sane Edinburgh citizens!"

In criticising patent medicine certificates the conscientious journalist has, therefore, to deal with that most dangerous of untruths which is told unconsciously by an honest stupid man, who appeals to the test of very dubious experience.

The remedy for the evils resulting from patent medicine recommendations can scarcely be found in legislation alone, since it is difficult to secure, because of these very recommendations. Judge Hull has well said: "But even should legislation be secured, there is little reason to suppose that law could be enforced. Most newspapers, magazines, etc, derive much of their support from patent medicine advertisements of this sort of medicines. Hence their mouths are closed to the truth. For many years Dr. Orange Judd, publisher and editor of the American Agriculturist, was accustomed to expose sundry humbugs, and among others the fallacies and iniquities of proprietary medicines. He was a physician himself, and took infinite pains and trouble to inform his readers respecting these matters. But when was it known that other New York journals even copied his exposures of villainy of all sorts in connection with medicines?"

Education of the people is the first means of preventing these recommendations, and this education will not be accomplished by ridicule alone. The average religious, legal, daily, and even medical journals, are silenced in the manner already described, while the fear of a libel suit deters many

conscientious journalists from exposing the preposterous claims of patent medicine certificates. Nor is such a fear purely chimerical, since Dr. C. Seiler, a prominent Philadelphia laryngologist, has just defeated such a suit instituted because in a public lecture he exposed the valueless character of certain patent medicine. The medical and pharmaceutical journals might do something, but the suspicion of interested motives would somewhat nullify their efforts.

Here is a most important duty for sanitarians; as sanitation is becoming fashionable among laymen, good work can be done by sanitarians in this matter most intimately related to public health. The quarterly sanitary conventions which are becoming fashionable in Michigan and other States could with profit spend part of their time in enlightening their members as to the value of patent medicine recommendations.

HYPODERMIC BULBS.*

A NEW METHOD OF KEEPING HYPODERMIC SOLUTIONS.

BY M. S. LIMOUSIN, PHARMACIST.

The question as to the best mode of preservation of solutions intended for hypodermic use has long occupied the attention of physicians and pharmacists. There have been devised and recommended different methods to secure this result. The majority of proposed methods—aromatic distilled waters employed as solvents, alcohol, glycerin, acid salicylic, etc.—present the inconvenience of adding to the medicinal agent substances which may modify the action from that of alkaloids simply dissolved in water. Extemporaneous injections, which have been proposed under the form of pills, pastilles, or gelatinous plates, present the same inconveniences. These preparations give neither clear nor limpid solutions. The limited proportion of liquid added to dissolve them does not permit of their filtration, since the greater part of the medicament would then remain upon the filter. Every pharmacologist recognizes the necessity of the most minute precautions against the presence of foreign bodies in these solutions. It is, therefore, not a little astonishing to see such defective procedures recommended as have already been described. The ordinary solutions prepared in advance of use change rapidly in composition. Almost always, after the lapse of a relatively short time, there occurs, beside alteration due to the presence of fungoid growths, a weakening of the strength of the solution, which is due to crystallization occurring on the walls of the bottle, or between the cork and the neck of the bottle. It is often necessary for the pharmacist to have at hand hypodermic solutions ready for the most urgent use.

To secure such solutions free from the defects described, I have prepared hypodermic bulbs. These bulbs resemble a slightly ovoid balloon, terminating in a tube of thin glass, and of a cubic centimeter capacity. The interior of these bulbs is sterilized by subjecting them to a temperature of about 392° F. They are then filled with the required hypodermic solution, either by inserting the end of the heated bulb in the cold solution, or by injecting the same into it with a fine syringe. The bulb being filled, the end is closed over an oxyhydric lamp. In this manner the solution is preserved in all its strength and purity. The solutions are made with water filtered and then boiled. Distilled water is not so often used, because experience has taught me that it is more likely, than ordinary water, to produce fungoid growths.

To use the bulb for injection the tube is scratched with a fine file or watchmaker's saw; it then readily breaks by pressure of the fingers, and the contained liquid can be drawn out in the usual way. For injections of ergotine and morphine, chloral-hydrate, etc., this procedure offers the greatest advantages. It may, of course, be used with all alkaloidal or other solutions employed hypodermically. In these bulbs I have kept solutions of ergotine intact for more than a year; these, under the ordinary procedures, change in five or six days. Morphine chlor-hydrate keeps perfectly as a rule, but sometimes, when very old, becomes cloudy, more particularly if it be exposed to the light. In winter, under the influence of extreme temperature, the solution may crystallize, but on slightly heating the bulb the crystals quickly dissolve.

*Archives de Pharmacie, April, 1886.

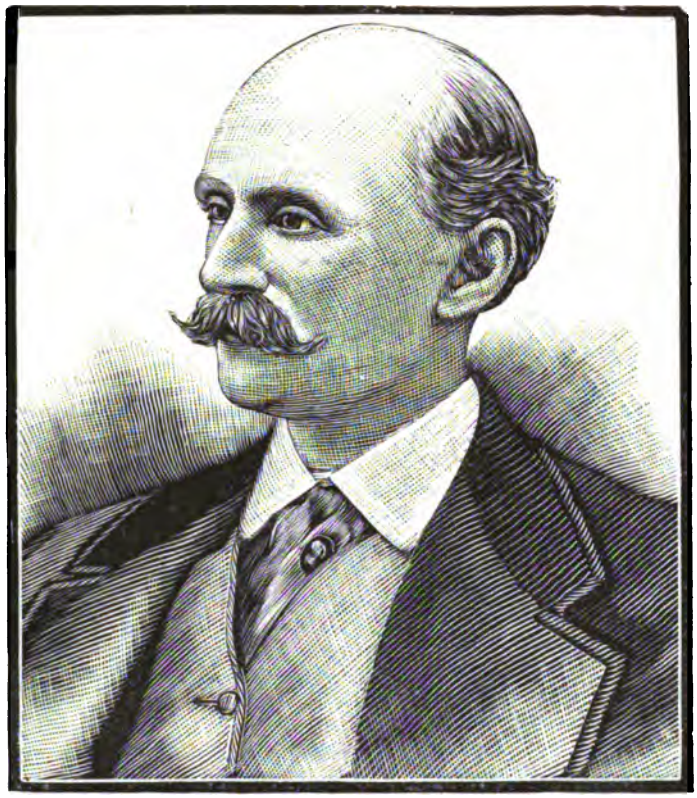
PROFESSOR EDWARD S. WAYNE.

Prof. Edward S. Wayne was born in Philadelphia in 1818, of Quaker parentage, and he died in that city December 11, 1885. While a boy, he procured a situation in the drugstore of Fred'k Klett & Co., corner of Second and Callowhill streets, Philadelphia, where he remained for a number of years. He developed an immediate taste for chemistry and pharmacy, and availed himself of every spare moment to devote to his professional acquirements. He not only familiarized himself with his favorite studies, but with the sciences in general, acquiring a mechanical education and becoming proficient as an engineer. This is established by the fact that when the house of Fred'k Klett & Co. decided to build a white lead factory, young Wayne, although a mere boy, superintended its construction, even setting the engine, and continued his supervision for some years thereafter.

In 1844 Fred'k Klett also conceived the idea of opening a drughouse in Cincinnati, and they sent Mr. Wayne and S. M. Pleis to conduct the business under the firm name of "Wayne & Pleis." In connection with this enterprise, they also established the manufacture of prussiate of potash. The partners did not agree very well, and after several rather unsatisfactory years the business was sold to Abia Zeller, Mr. Wayne remaining with the successor and continuing in this position for some years.

About the beginning of the war, Prof. Wayne identified himself with Suire, Eckstein & Co., wholesale and retail druggists, and when Mr. Suire died some years later (then F. E. Suire & Co.), he transferred his services to J. S. Burdsal & Co., with whom he remained until a few years before his death. After the severance of his connection with Burdsal & Co., Prof. Wayne conducted a laboratory on Fifth Street, assaying minerals and analyzing

poisons, etc., until his failing health a few months before his death compelled him to cease active business. Then he returned to his native city, Philadelphia, and in his old home soon after died. In reviewing the business record of Prof. Edward S. Wayne, we find him identified with several industries outside of his legitimate profession. In the early history of "coal oil" Prof. Wayne conducted a factory in Cincinnati, and manufactured the oil from bituminous coal, but, when the great kerosene oil fields were opened, his business was paralyzed and his plant was sacrificed. When Mr. Longworth and others about 1860 attempted to make the Ohio River hillsides a vast vineyard, and devoted much wealth to this object, and established a wine that had once a national reputation, Prof. Edward S. Wayne entered with zeal into experiments to economize the crude bitartrate of potassium therefrom. He made tartaric acid and Rochelle salt, but this industry perished before it was established, for the vineyards proved unremunerative and have disappeared. While with F. E. Suire & Co., Prof. Wayne devised a formula for making an Elixir of Buchu, Juniper and Acetate of Potassium, known as "Wayne's Diuretic Elixir." It is extensively prescribed at present, and was a fruitful source of income to him in after years. These, and varied business connections, helped to make up a very active life.



PROFESSOR EDWARD S. WAYNE.

He was conspicuous in other directions, and his reputation was national. He was an easy, interesting writer. We find that the American Journal of Pharmacy, between the years 1855 and 1870 published and reprinted more than twenty papers from his pen. He contributed six of the volunteer papers read before the American Pharmaceutical Association in 1867, more than one-third the entire number. Among the papers that have appeared, may be named "The Preparation of Tartrates and Tartaric Acid from Native Catawba Wine"; "The Gizzard of the South American Ostrich," in which he showed that the inner coat of the gizzard was used in Buenos Ayres as a remedy for dyspepsia, and Prof. Wayne therein indicated that a pepsin might be prepared from these gizzards, of superior quality; "Quicksilver in North Carolina," showing that a vein of ore in that State yielded at the rate of 150 pounds of mercury to the ton. These and other papers, continued during a long, active life, made him familiar to readers who had been denied the pleasure of personal acquaintance.

There has never been a man of his profession in Cincinnati, so conspicuous as Prof. Wayne. He had a degree from the Ohio Medical College, and was an authority with the medical profession. He interested himself with all matters pertaining to pharmaceutical education, and, from the start, labored to obtain a charter for the Cincinnati College of Pharmacy. One of the first professors in that organization, he held his chair until his failing health forced him to relinquish it in favor of a position in the State Pharmacy Board, to which he was appointed when the pharmacy law became an act, a year or so before his death. Prof. Wayne read German and spoke it fluently. He was an accomplished scholar, an excellent conversationalist, and quietly moved in Cincinnati's most cultivated society, His students honored and loved him, and his lessons were considered an entertainment rather than a task. Notwithstanding that active business was the record of his entire life, the writer of this believes that his place was elsewhere. Had he been permitted to devote his entire energies to educational matters and to a professional course, he would doubtless have done better for himself. Such a course, however, would have been a loss to others, and we who have grown up to know and honor him, to be personally acquainted with his kindly character and to receive the benefit of his general knowledge, would have been the losers. It is customary to magnify the good traits of those who have died, and in writing this short record of the life of Prof. Wayne an endeavor has been made to avoid an error of that nature. Those who knew him early will bear witness to the correctness of this history, for that portion of our paper is upon the word of Mr. Charles C. Reakirt. He was a boy in the store in which Prof. Wayne began his business life, and, nearly together, they have ever since been associated. Those who are members of the American Pharmaceutical Association, or who have read the pharmaceutical literature of thirty years and more will acknowledge that nothing is overdrawn in this direction. Those who knew him personally will know that his character and the example he has given us is herein underrated rather than the reverse. The wonder is that a man can have passed conspicuously through a long and busy life, making so few enemies, and exciting so little jealousy.

STATE OF PHARMACY IN HOLLAND.*

BY WEFERS BETHUK.

PROFESSOR OF PHARMACY AT THE STATE UNIVERSITY OF UTRECHT, HOLLAND.

The practice of pharmacy in Holland is regulated by a law of the State, which was introduced in 1865. This law, after having been in force for twenty years needs revision, and it will probably soon be accomplished. For the present, however, it continues in force.

Every apothecary is allowed to practice pharmacy, when, by virtue of a satisfactory examination, he has been thought qualified for it. He may either establish a new apothecary shop, or take up one already established, without waiting for special permission from the government.

The examinations are settled by a separate law, which was introduced in 1878. One who wishes to pass the examination for apothecary, must have first been found satisfactory in the preparatory examinations.

The examinations which the future apothecary has to pass at the university for the department of mathematics and physics are "the first examination," comprising physics, botany, chemistry (organic and inorganic), and a supplementary examination in the elements of zoology and mineralogy; while the theoretic part of the examination for apothecary comprises pharmacology, chemical toxicology and analytical chemistry. When the latter examination has been passed with success, and the person can give proof that he has practiced pharmacy during two years in the shop of an authorized apothecary in Holland, the last examination, which comprises the practical part, and is called "practical examination for apothecaries," is passed. This examination takes place at one of the universities, and is held by a committee appointed every year by the State government, and composed of professors and apothecaries. This examination comprises the theory and art of prescribing, qualitative and quantitative organic and inorganic analysis, the art of making galenical and pharmaceutical chemical preparations, microscopy, the recognition of medicinal plants and the identification of poisons.

The apothecary's shops are under the supervision of the State government, i. e. the State is entitled to have inquiry made at any time into their condition, and may punish those whose shops are found unsatisfactory. The supervision is held by the Inspector of the Medical Supervision of the State.

The latter appoints from among the medical council committees consisting each of an apothecary and a physician, who, at odd times, visit the apothecary's shop and look into its conditions. This generally takes place once a year; if found unsatisfactory, more than once. Those found in satisfactory condition are not visited every year.

The inquiry also extends to the apothecary shops of physicians, who are also required to have some knowledge of pharmacy before they are allowed to practice. The latter, however, have not a complete shop, but must have in his store simply seventy-two different drugs pointed out by the law. They are, however, permitted to keep such drugs in stock as they think desirable.

Except to the wholesale trade, the inquiry of the State also extends to the sale of poisons which ought to be kept locked up by apothecaries as well as by physicians and druggists, and may be sold only to those who bring a proof in writing with them, which is signed, and in which is mentioned at the same time for what purpose the poison is desired, while it is given to the buyer in a sealed package. The signed proofs must be kept for twenty years; moreover, the sale must be registered.

The apothecary is entitled to prepare prescriptions of physicians, but he is not allowed to give prescriptions himself. Further, he may sell compound drugs, which are not prepared by himself—so-called specialties; but he is obliged to know of what ingredients they are composed, and to be able to show according to which prescription they have been prepared. Although in theory the latter rule prevents the sale of secret drugs (charlatanry), this is not really the case. In case of inquiry after the prescription by the committee who is appointed to do this work, some prescription or other is shown, and thus the letter of the law is answered.

The sale of secret drugs by apothecaries belongs however, to the exceptions; the sale of even so-called specialties does not occur with the greater part, and certainly not the best apothecaries; therefore, a great many do not sell them if not urged to do so by the prescription of a physician. This class of prescriptions by physicians also belongs to the exceptions, of course. They are not the best physicians who do so, but most commonly those who, not knowing how to write a proper prescription, or for convenience, prescribe to their patients a specialty to be found in the trade.

In consequence of the diminution of the number of apothecary shops, the prosperity of the apothecary has during the past few years increased.

The difficulty of examination is an obstacle in acquiring the title of apothecary to those who either lack natural capacity to study or have it only in a small degree, while for those who have natural capacity other ways of study are open and the study of pharmacy has but little attraction. Thus, in spite of the unlimited liberty to establish themselves, the number of apothecaries does not become too great.

On the other hand, the young apothecary, even if he has no fortune, has an opportunity to establish himself, a thing which in Germany is simply impossible for very clever apothecaries even, when they do not possess a large fortune. As substitute in an apothecary shop the young apothecary has a remunerative situation, and can count upon good treatment, while the conditions for taking an apothecary shop are commonly very difficult, for the establishment of a new apothecary shop in a town with an increasing population seems to require large expenses.

On the first of January, 1873, the number of apothecary shops was 758, in a population of 3,675,000; on the first of January, 1879, was diminished to 655, in a population of 3,932,000; and on the first of January, 1885, to 639, in a population of 4,225,000.

It should, however, be considered that the computation of one apothecary shop in 4,847 inhabitants on the first of January, 1878, and one in 6,611 in 1885 is not correct; because no apothecary shops are found in most villages, and even not in small

*Abstract from the Pharmaceutical Record.

towns, but they are most frequently met with in populous villages and large towns.

With regard to the scientific movements of pharmacy, it may be stated that it is represented in Holland by a monthly periodical, the New Periodical for Pharmacy of Holland, and two weekly periodicals, The Pharmaceutic Weekly Periodical, and The Weekly Periodical of Pharmacy.

Moreover, it ought to be considered that by these preparatory lectures the apothecaries are enabled to read German and French periodicals from the original.

The Society for the Progress of Pharmacy, the chief administration of which is established at Amsterdam, aims at considering everything which may advance the knowledge of pharmacy. The larger portion of the Dutch apothecaries are members of this society, who once a year have a general assembly, while in different principal towns, provinces, or parts of provinces, subdivisions are established, which generally assemble every month to discuss scientific questions, or such as refer to pharmacy. Thereby the fraternal spirit, which generally is great among the Dutch apothecaries, is kept alive and promoted.

The Pharmacopœia of the country, which is the lawfully established book of pharmacy, is the "Pharmacopœia Neerlandica," second edition, introduced in 1871, of which a new edition is now in print.

PROCESS FOR LANOLIN.

Lanolin, obtained from the alkaline water-washings of wool, is a fatty body consisting of varying proportions of cholesterin and fat-acids, with which is incorporated a certain percentage of water, which, becoming quickly absorbed, forms a smooth, white, homogeneous, unctuous mass. Gawalovski (Rundschau, Prag., 1886) proposes a new method for its preparation, as follows:

The wool-washings are first passed through a fine sieve to free it from mechanical impurities, and then through a convenient quantity of cut-straw or sawdust; the solution is then treated with magnesium sulphate, and the resulting magnesium soap, containing also the cholesterin, is collected, well washed with water, then drained and allowed to dry by exposure to air. It is then treated with sufficient diluted hydrochloric acid to decompose the soap; a large excess of hydrochloric acid should be avoided, but sufficient added until a slight excess of acid is indicated, which is afterward removed in the process. The resulting fatty scum, consisting of fatty acids and cholesterin, is drained and treated with petroleum benzin in a closed vessel, slightly warmed to about 85° F. to aid solution, and then filtered through flannel in a closed filter press. The petroleum benzin is then driven off by evaporation or distillation, and to remove any remaining traces of hydrochloric acid the residue is treated with from 1-10 to ¼ per cent. of carbonate of magnesia, rubbed up with water, the mixture being then well washed with fresh portions of water until the water washings are no longer milky from the presence of magnesium carbonate. It is again melted, filtered while hot through flannel, and when cold, water is incorporated, and the lanolin becomes white, hard and smooth.

MODELS FOR TEACHING BOTANY.

Our Munich, Germany, correspondent last month mentioned a new and practical method of teaching botany by means of models. The method may be illustrated by the following, the first representing the flower in its natural form, and the second when divided into its parts, with descriptive indices:

BOTANICAL FLOWER MODELS.

The simplicity and directness of the method have much to commend it to adoption. Simple ocular illustration is worth columns of description.

THE PRODUCTION OF SUGAR.

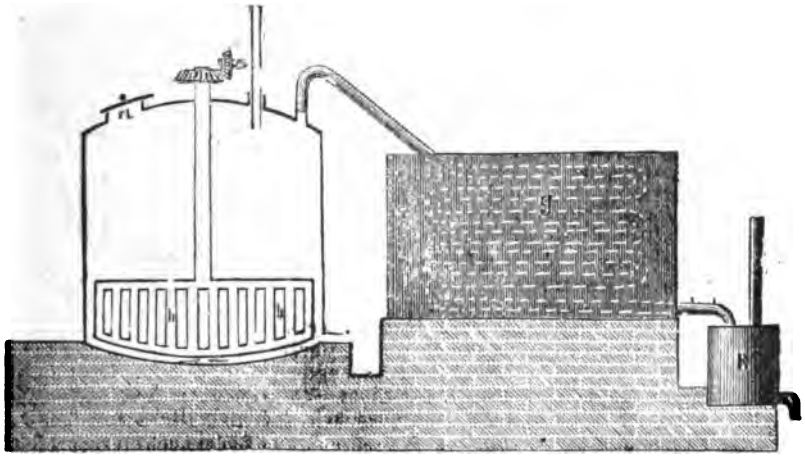
The manufacture and consumption of sugar has of late years assumed immense proportions and is yearly on the increase; the world's production of crystallizable sugar in 1880 approached nearly 4,000,000 tons, including that from the sugar cane, sugar beet, sugar maple, and sugar palm, according to Karl Freid in (Zeit. Oster. Apoth. Ver.) The annual production of that from the beet (Beta vulgaris, variety Silesiaca, containing from 9 to 12 per cent.) now nearly equals the annual world's production from the cane, being 1,829,128 tons in 1880 compared with 2,000,000 tons from the cane, while the average yearly increase for the last ten years has been larger than that from the cane.

The sugar cane is cultivated and raw sugars made in many lands, but the largest quantities are produced in the West Indies and South America; the consumption of sugar in the United States is second only to that of Great Britain in point of quantity, being 830,000 tons annually and that of Great Britain 1,050,000 tons. The consumption per capita is, however, greater in the United States, being 16.7 kg. compared with 3 kg. in Great Britain; the average consumption per capita in the various countries of Europe is about 5¼ kg. The consumption per capita in the United States is only exceeded by that of the several countries of Australia, which average 40 kg. per capita.

The well known maple sugar, obtained from the juice of various species of conifera, especially Acer Saccharinum in Canada, and palm sugar obtained from the blossoms of various palms of the East Indies, constitute a considerable amount of the world's total production.

PREPARATION OF CHLOROFORM.*

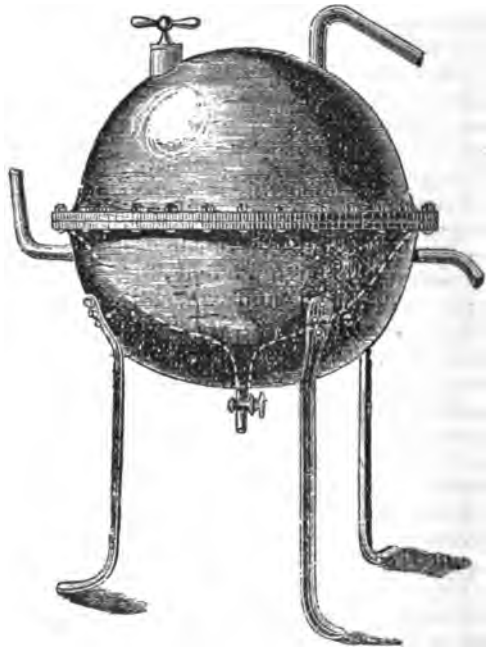
As is well known, several secondary products and successive chemical changes occur in the ultimate production of chloroform from a mixture of chlorinated lime, alcohol and water, and as the liberated hydrate of calcium utilizes some of the alcoholic products it is advantageous to operate with an excess of alcohol. The apparatus necessary in the preparation of chloroform is quite simple consisting of one or more generators, a condenser, small iron receivers, a receiver for the by-products (Montejus), a wash apparatus and a copper rectifier. The generators consist of a cylinder composed of kettle metal, 13 to 14 m.m. in thickness. To obtain a daily production of 125 kilograms of chloroform 4 generators are necessary 1.4 meters high and 2 meters in diameter, each being furnished with an agitator, an aperture for the admission of steam, one for water, and a man-hole for the introduction of the chloride of lime. The upper edge of the generator is encircled with a lead pipe pierced with holes facing toward the generator, and connected with the water supply; the generator is connected with the condenser by a tube 75 m.m. in diameter, having as great a fall as possible.



GENERATOR. CONDENSER.

The condenser should be placed as near the generator as possible; and the coils, while quite long and having a sufficient cooling surface, should have comparatively few turns. After leaving the condenser the distillate passes to a small iron receiver; the montejus may be of any convenient shape, but should hold at least 4,000 litres. The crude chloroform contains a large percentage of alcohol easily removed by washing with water, the apparatus consisting of a tall, narrow cylinder, with a hemispherical base, containing a fin-shaped agitator, in order to produce upward agitation. Faucets are arranged at different heights to admit of the withdrawal of the wash water, which, being alcoholic, can be used again in the process.

About 800 litres of water are necessary to perfectly wash 150 kilograms of crude chloroform, which, after being well drained, is further purified by distillation in the rectifier, the first distillate containing alcohol being again well washed. The connection between the rectifier and condenser should be as short as practicable. Experience has shown the following proportion of ingredients to be the most advantageous to operate with; namely, 4 parts chloride of lime, 103 to 108° in strength (a weaker chloride not furnishing sufficient hypochlorite, and a stronger chloride generating too much heat in the mixture), 3 parts alcohol, 96° Tralles, and 13 parts of water. To produce 125 kilograms per day each generator requires 400 kilograms chloride of lime, 300 K. of alcohol and 1,300 litres of water. To the alcohol, mixed with sufficient water to equal 1,600 litres, 400 kilograms of chloride of lime are added during the constant use of the agitators; the generator is then closed air-tight, and warmed by means of steam. The temperature of the interior is ascertained by a thermometer which dips into a round cup containing oil attached to the inner surface of the generator at any convenient point. The steam is withdrawn when a temperature of 40° C. is reached; and then, by agitation, raised to 45° which gradually rises to 60° C. In very warm weather a higher temperature can be prevented by allowing water to flow over the apparatus. A small glass tube, inserted at or near the end of the condenser indicates, by the appearance of a mist, the commencement of the operation. The chloroform ladened air escapes for about a minute very forcibly, after which the chloroform commences to come over. After the distillation of about 30 kilograms of chloroform from each generator the



RECTIFIER.

agitators are again employed for a time, and distillation continued until the distillate no longer appears turbid, when a portion of it is agitated with water. The product is then washed and rectified as above described.

The subsequent distillate is chiefly alcohol, and is led into the montejus, and with the water washings of the chloroform may again be used in re-

*From Chemiker Zeitung, March 17.

charging the generators, the deficit in alcohol being added. Utilization of the by-products and the above process show, by a calculation of the results of four years' operation, that the quantity of chloroform obtained is about equal to the weight of alcohol employed.

THE METRIC SYSTEM ONCE MORE.

BY PROFESSOR OSCAR OLDBERG.

The writer coincides with recent critics in the statement that his defection from the cause of the metric system "has received more notice than it deserved." The merits of the metric system, which have challenged the admiration of the world, remain the same, and the enthusiasm of its advocates is as natural as it seems unabated; but no one can be intolerant in such a cause without doing injury to it. Unfair criticism and exhibition of impatience do not constitute argument.

One writer says that I have failed to satisfactorily explain the cause of my defection, because it would be crediting me with "less than average sense" to suppose that I did not previously know the reasons which now I assign for my change of views; and which, he says, have been assigned by every opponent of the metric system, nothing new being added by me. Admitting freely that most of the reasons advanced against the metric system were well known to me when I first became actively interested in the subject some fifteen years ago, nevertheless my views at the age of twenty-five and thirty-five were quite different from my present views, when I am past forty; and very substantial as well as new reasons, therefore, are fully set forth in the papers published in the October and December numbers of THE PHARMACIST, which are not difficult to discover by any one disposed to read without bias.

The charge is laid at my door that I have hindered the introduction of the metric system by constructing and publishing rules for converting expressions of values from one system to the other; and it is added, not without justice, perhaps, that my own writings bear evidence that I frequently thought in the old, and then translated my thoughts into expressions in the new system. It is perfectly true that "he who would rightly use the metric system must learn to think in metric quantities." The same views were expressed by me many years ago, but the fact remains that we cannot sweep away the old system and our habits of thought at once, and comparisons and translations between the old and the new are simply unavoidable. To reproduce in metric terms the exact translation of a formula originally constructed in the old system does not require us to think in metric terms at all, but, on the contrary, literally requires the application of rules for conversion, our critics' assertion to the contrary notwithstanding. All men's minds are not constituted alike, but they certainly are all slow enough to change habits. The writer found that it required not only considerable time, but also considerable effort to unlearn thinking in his mother tongue, and to learn to think in what was then to him a foreign language. In fact, he finds that it now requires greater effort to think in Swedish, the language of the country in which he grew to manhood, than to think in English, the tongue of his maturer years. But the translation of a sentence is a very different thing from the conversion of weights, measures and money, and in translating a definite formula from one system to the other, preserving the original values and proportions, the result does look as awkward as one would naturally expect it to look.

Another point of attack is the statement made by me, that, having given a good deal of study to this subject within the past two years, especially in connection with the application of the system of parts by weight to tinctures and other liquid preparations, I have become convinced that a decimal system is not as convenient and simple for the purposes of practical medicine and pharmacy as a system in which the larger units are divided into two, four or eight, of the next smaller units. Men far more distinguished for their learning and genius than either my critics or I can hope to be have condemned decimal arithmetic as being the least convenient of any that has ever been considered, and no one has defended it, except on the ground of its being already introduced. Octonary and duodenary sytems of notation have been proposed as superior to the decimal; and, so far as the writer has been able to learn, the weight of opinion is in favor of the octonary system. The writer believes that octonary subdivision is that best adapted to the purposes of medicine and pharmacy, and has so far seen no reason to change his conclusion. The accusation made by several writers that I propose the adoption of a "new" system of weights and measures "based upon the drop," I had felt sure would never be believed by intelligent men, but its reiteration calls for the statement that no utterance of mine will bear the construction that I had the remotest idea of favoring so absurd a proposition.

ADENINE.*

A NEW ANIMAL ALKALOID (LEUCOMAINE).

BY ARMAND GAUTIER, M. D., PARIS, FRANCE.

The Academy will be interested in learning that the theories which have guided me in my researches on leucomaines produced in the living animal organization have received striking confirmation recently in my own laboratory, and in Germany. March 11 Dr. Kossel, a prominent chemist of the Berlin Physiological Institute, reported the discovery of a new base, *adenine*, obtained from the sweetbread and spleen, but which, he states, exists in all animal and vegetable cells. It is a well defined substance obtained in the form of long crystals, and yielding decided salts with mineral and organic acids. It is one of the most widely distributed leucomaines. It is isomeric with hydrocyanic acid; its formula, $C_5H_5N_5$, is exactly quintu-

*Academie de Medecine, Repertoire de Pharmacie, April, 1886.

ple that of hydrocyanic acid; nor is this merely a fortuitous coincidence, since treatment of adenine with caustic potash yields a considerable quantity of potassium cyanide. According to Kossel, adenine results from the decomposition, in the physiological state, of a complex albuminoid substance, which forms the greater portion of cell nuclei, termed *nuclein*.

When an attempt is made to isolate nuclein it decomposes, even in water, into albumen, phosphoric acid and adenine. It is certainly curious that cell nuclei contain a leucomaine equivalent to hydrocyanic acid quintupled. By treatment with nitric acid adenine is transformed into hypoxanthine or sarcine ($C_5H_4N_4O$), owing to the replacement of NH by an atom of oxygen.

It is evident that adenine belongs to a unique series of bodies which are not the products of direct oxidization of albuminoid substances, as is the classical view, but immediate derivatives of decomposition of these substances by hydration.

Since 1872 I have pursued researches based on the theory that a substance, polymeric, with prussic acid, played an important part in the animal economy, and constituted a specific part of cell nuclei. In 1884 I was able to support this hypothesis by facts, and Dr. Kossel's discovery still further tends to demonstrate it.

In medicine it should, therefore, be remembered that not only do the physiologically best endowed cells manufacture poisons without ceasing, but that their nuclei and protoplasmic substratum contain the most terrible of molecular aggregations. Another confirmation of my views has occurred at the hands of Dr. Morelle, of the Lisle medical faculty. He has found in the normal spleen a redoubtable poison, whose rapid and violent action recalls that of muscarine or digitalin. If injected under the skin of a Guinea pig it kills the animal in a few hours, and produces asphyxic and convulsive symptoms. Characteristic visceral changes are found on autopsy. Frogs inoculated with it soon fall into collapse, with muscular contractions. Respiration is at first increased, then diminished, and then ceases. The symptoms resemble at times those of uræmic poisoning.

In the discussion of the paper Dr. Colin, of Alfort, could not see how the existence of such poisons in the normal subject could be reconciled with the maintenance of life. He had fed animals on liver, sweetbread and spleen debris without any effect on health. (In the presence of the fact that similar poisons are known to be formed in the organism, but only cause illness when the secreting organ is diseased, it is difficult to see what logic there is in Dr. Colin's argument.) Were these substances not the result of manipulation by chemists, who ascribed to normal functions what was the result of their reactions and infusions? Dr. Gautier answered that substances might be isomeric and still have different properties. There need be no question as to the actual existence of adenine, independent of manipulation; every element of error of this kind had been eliminated. Adenine existed in the sweetbread to the extent of one part in twenty-five hundred. It had been shown by Claude Bernard that under certain circumstances curare could be injected indefinitely into the veins of dogs and eliminated from the animal's system without producing poisoning.

CIVET.

Zibethum or civet is the yellowish brown musk-like unctuous secretion obtained from certain secretory follicles of the civet cat—Vivera Zibetha L., and Vivera rasse Horsf., inhabiting the East Indies and the South Asiatic Islands. It is also obtained from Vivera Civetta Schreb. inhabiting Upper and Lower Guinea and in East Africa.

The civet is obtained by emptying the follicle sac by means of a spoon, and the secretion freed from hair. It is also obtained by collecting that which has become deposited upon trees owing to the follicle sacs becoming surcharged with civet. One animal furnishes from 10 to 15 grams of civet; it is used in the land of the civet as a perfume and medicine. It should be preserved in well-closed containers. Most of that used in Europe comes from Egypt, where various species of the civet cat are kept confined and bound, and the civet removed in the ordinary manner, which for exportation is filled into ox-horns, one of which sells at from 5,000 to 10,000 piasters (1 piaster=about 6 cents.

MICROSCOPY OF THE RHIZOME OF MENISPERMUM CANADENSE.

BY W. C. KIRCHGASSER, PH. G.

The plant is a woody climber found growing on the banks of streams throughout the United States. The stems are slender, twining to the height of fifteen or twenty feet, and, except those which are several years old, dark-green and smooth. The leaves are alternate peltate or roundish-cordate and obtusely three to seven-angled or lobed. The flowers are dioecious, small, greenish-yellow and in axillary panicles. The floral envelopes consist of calyx and corolla, the former of from four to eight greenish-yellow sepals, the latter of from six to eight similar but shorter petals. The stamens in the sterile flowers are from twelve to twenty in number, as long as the sepals, and the anthers are four-celled. The pistils in the fertile flowers are from two to four in number, raised on a short common receptacle, and the stigma is broad and flat. The fruits, which ripen in September, consist of globular, black, glaucous drupes, which in appearance somewhat resemble frost grapes. The ovary during its development into the fruit, becomes strongly curved so that when ripe the mark of the stigma is located near the base. The putamen, or stone, is wrinkled, grooved, laterally compressed and curved inte a crescentic form.

The rhizome, the part used in medicine, is slender, several feet in length, about one-fourth of an inch thick, cylindrical, longitudinally striate, yellowish-brown and beset with thin, branching, and rather brittle rootlets. It is yellow internally and the fracture is tough and fibrous. On transverse section, the bark is seen to occupy about one-tenth of the diameter of the rhizome. The fibro-vascular bundles are about fourteen in number, and as seen in transverse section, are short, in a radial direction, broad and nearly square in outline. They are separated by medullary rays about equally broad. The pith is large, occupying more than

half of the diameter of the rhizome. The cells composing it are all parenchymatous, of large size, averaging about one one-hundred-and-sixty-fifth of an inch in diameter, contain a few isolated starch grains, and, as shown by the phloroglucin test, have their walls slightly lignified. The stone cells which are present in the pith of the above-ground stem are not found in the rhizome.

II

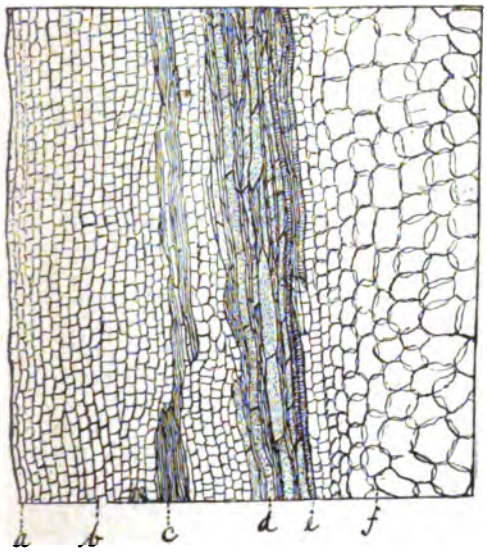


FIG. 2. Represents a portion of a longitudinal section of the rhizome. *a*, is the epidermis; *b*, the parenchyma of the cortex: *c*, the bast; *d*, a dotted duct in the xylem; *e*, a spiral duct; *f*, the pith.

The xylem portion of the fibro-vascular bundles consists of wood cells and ducts, the latter consisting mainly of the dotted and spiral varieties. The walls of both wood cells and ducts are strongly lignified. The wood cells have a transverse diameter of about 1-1500th of an inch and a length of about 1-80th of an inch. The dotted ducts have a mean diameter of about 1-500th of an inch and a length of about 1-75th of an inch. The spiral ducts have a somewhat narrower diameter.

The bast cells form crescent-shaped masses, and these are separated from the wood by a broad layer of soft tissue consisting of cambium, soft bast and sieve cells. The bast cells are strongly lignified, contain starch grains, have a transverse diameter of about 1-1200th of an inch and a length of about 1-13th of an inch. Their walls are about as thick as those of the wood cells, namely, about 1-6000th of an inch.

The cells of the bark parenchyma, as well as those of the medullary rays, are considerably smaller than those of the pith and contain starch in minute grains, those adjacent to the fibro-vascular bundles containing large quantities of it. The cells of the bark parenchyma are loosely arranged, leaving large intercellular spaces which appear to contain only air. Neither laticiferous tissue nor stone cells appear to be present in the cortex. The cells have a mean diameter of about 1-600th of an inch.

The starch grains are minute, spheroidal and have no characteristic markings.

The epidermis, though occasionally ruptured by suberous warts, is usually present. The microscopic structure of the above-ground stem, as will be seen by reference to the figures is so different from that of the rhizome that admixtures of the former with the latter may readily be distinguished by the aid of the microscope. The fibro-vascular bundles in the above-ground stem are long and wedge-shaped and contain numerous large ducts,

I

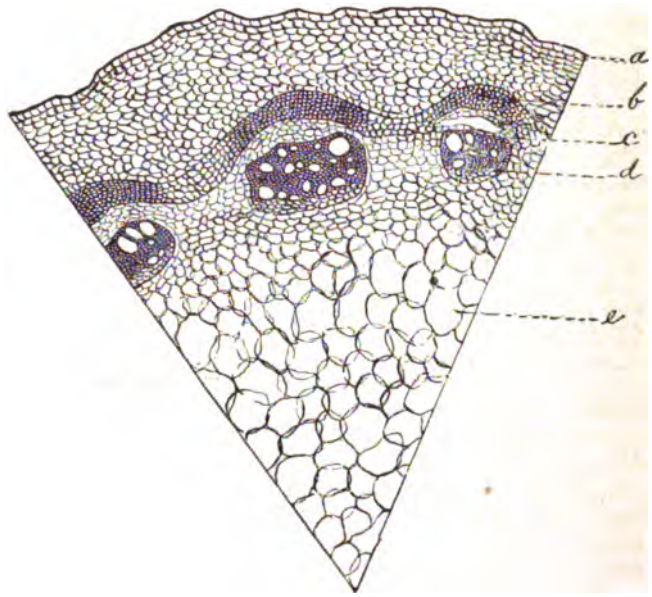


FIG. 1. Represents the transverse section of the rhizome. *a*, is the epidermis; *b*, the bast; *c*, the cambium; *d*, the xylem; and *e*, the pith.

III

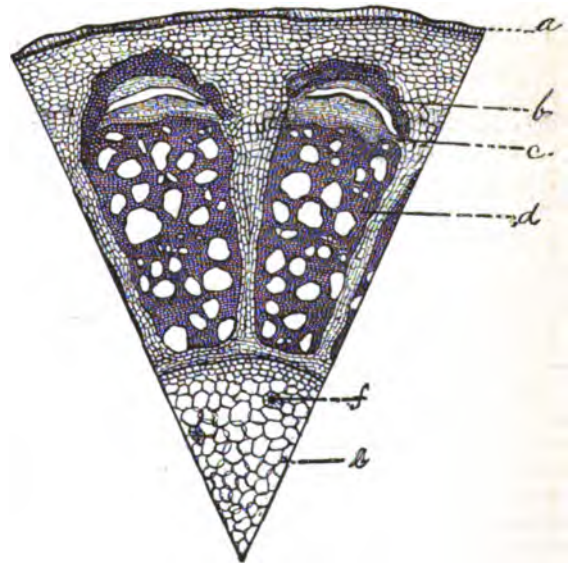


FIG. 3. Represents a transverse section of the above-ground stem. *a*, is the epidermis, with a much thickened cuticle; *b*, the bast; *c*, the cambium; *d*, the xylem; *e*, the pith, and *f*, a stone cell in the pith.

the medullary rays are narrower, the pith smaller, and the latter contains stone cells.

It may be remarked that in the description which Prof. Maisch gives in his Materia Medica of the microscopy of the rhizome and above-ground stem, he has made the mistake of describing the one for the other, and the figure which he gives is that of the above-ground stem, and not of the rhizome.

Editorial.

June appears to be the favorite month for State pharmaceutical conventions. The interests of reporters for the press were evidently not consulted in fixing the dates, else the labor of an entire season would not have been crowded into a merciless ten days, as the following table of dates indicate:

June.	June.	June.
8. Illinois.	2. Massachusetts.	2. Ohio.
8. Indiana.	15. Minnesota.	8. Pennsylvania.
9. Kansas.	15. Missouri.	8. West Virginia.
1. Maryland.	8. New York.	

Action by these State associations upon the following subjects is obviously desirable:

(1). The appointment of a Committee on Revision of the Pharmacopœia, the members to serve prospectively also as delegates to the Pharmacopœial convention in 1890. We refer to this subject in another article.

(2). The appointment of a Committee on a National Formulary.

(3). The adoption of a resolution against the recognition of college diplomas of any kind in pharmacy laws.

(4). A resolution favoring the enactment by Congress of a stringent anti-drug adulteration act.

(5). The appointment of a special committee to report at the next meeting upon the extent, character and effects of secret nostrums in the United States, and what legislation, State or National, is best calculated to secure their repression or extinction.

(6). The appointment of a committee to co-operate with similar committees of other associations contemplating the repeal of the $25 federal liquor license.

(7). The appointment of delegates to the N. R. D. A. in conformity to the recommendations of the executive committee of the association.

The above are submitted, as of general importance. Every State presents issues of local moment, which should be the subject of systematic thought by members prior to the time of meeting, and appropriate resolutions written out and ways and means of securing desirable action determined upon. We often hear that certain members render themselves "too conspicuous," or that they are "trying to run things," when the plain fact usually is that these censors are themselves mere wall-flowers—ornamental, perhaps, but rarely disposed to do anything in furtherance of the aims and interests of the association. More individual thought and preparation for the opportunities of the convention, greater zeal and more earnest service at the convention, are what is needed to make these associations attractive and useful. Every member should prove himself an intelligent and living as well as a numerical part of a convention, and should esteem it his privilege as well as his duty to render himself in a just sense as "conspicuous" as possible. Give us more conspicuous men; more men who contribute papers, who furnish careful committee reports, who are ready to serve in any capacity for which they are qualified, or can qualify themselves. Give us more men to take part in the discussions, be the subjects scientific, mercantile, or legislative.

Let there be previous study, also, of parliamentary practice. How often is a convention turned into a very pandemonium of confusion; how often tortured and torn asunder by ignorance of the very rudiments of parliamentary usage A few evenings' study of some little dollar manual, supplemented by a little observation and practice would avert much personal humiliation, and promote more fully the purposes of organization.

Among the questions which will crave the attention of the State Pharmaceutical Associations at their approaching annual meetings the pharmacopœial interests of States not represented in the convention of 1880 ought to receive careful consideration. Under the resolutions adopted by that convention its President is called upon to issue a notice on or about May 1, 1889, requesting the several incorporated medical and pharmaceutical societies and colleges of the United States to each elect, not to exceed three delegates, who shall constitute the Pharmacopœial Convention, which is to be held in the city of Washington, on the first Wednesday of May, 1890.

It will be seen, therefore, that all State Pharmaceutical Associations, when duly incorporated, are entitled to representation in the next Pharmacopœial Convention. Any State Association which may not be incorporated should take steps to secure acts of incorporation without further delay. The selection of delegates to the convention is a matter of such importance that the WESTERN DRUGGIST deems it wise that ample time be taken for it. Each body entitled to delegate representation should send men unmistakably qualified by education, professional ability and good judgment to take an intelligent and creditable part in the deliberations of the convention, and it should be borne in mind that the next revision of the Pharmacopœia of the United States will be carried out by a committee chosen from among these delegates. For these reasons it is suggested that special committees be appointed at the annual meetings this year to consider this matter, and to report to the next annual meetings suitable nominations from which selection may be made.

Another resolution of the last Pharmacopœial Convention calls upon the associations and colleges to be represented in the convention of 1890, "to submit the Pharmacopœia to careful revision and to transmit their labors, through their delegates, to the Committee of Revision, at least three months before the meeting of the convention." To "submit the Pharmacopœia to careful revision" is a task which even the ablest men the profession contains would require considerable labor to perform, and for this reason it is manifest that in order to accomplish any useful work in this direction two years is by no means a too liberal allowance of time. That the same men who prepare the preliminary report which is to be transmitted to the existing Committee of Revision three months prior to the meeting of the Convention should in general also serve as delegates, is a self-evident proposition, as they would necessarily be better prepared to do the work of that body than any persons could be who have not given special attention to the questions under consideration.

In the Pharmacopœia of 1880, pages XX to XXIV and XXVIII to XXX, references are made to some of the general principles governing the preparation and revision of that work, and it would seem to be desirable that the sense of the Pharmaceutical Associations of the country on these general principles should be ascertained and truly repre-

sented by delegates from all sections of the land in 1890—a result not attained in any previous Pharmacopœial Convention.

With the receipt of the proceedings of the American Pharmaceutical Association for last year we are again reminded of the lateness of its publication. While recognizing that the utility of such a work is chiefly embraced in the work done in pharmacy and allied branches in a condensed form convenient for reference, and that its value possibly increases as the volumes become older, yet we believe the more prompt publication of the proceedings would tend to increase the interest in the association.

The work of compiling the report on progress of pharmacy with proper care and discrimination requires probably more time than any one person would be justified in devoting to it. This, it is believed, is the principal if not the chief cause of the delay, and it rests with the association both to provide a remedy and to enhance the value of the work by a judicious division of the labor. There is a growing conviction that if the work were allotted according to the divisions already made, that is, one reporter on the progress of pharmacy, one on materia medica, and a third on chemistry, the scope, thoroughness and quality of the resulting reports would of necessity be enlarged and improved, and the publication hastened. Experience has proven the desirability of such division, or that Prof. Diehl be provided with competent department assistants.

In a plea for shorter hours incidental to the general eight-hour movement a drug clerk calls attention in a Chicago daily paper to the effect the long hours of confinement have upon the health and morality of the assistants in pharmacies. After recounting the familiar story of working a number of years for very small or no pay, and then, by hard effort, qualifying himself as a registered pharmacist, by graduating at a college with considerable expense, he arrived at the expected goal only to find his position very little improved.

What with the long hours and discouraging prospects in general, he conceived a desire for stimulants, which seemed to enable him to sleep and improve his appetite, both of which gifts of nature had gradually left him. While believing that the use of stimulants affords only temporary relief, and that continuance will ultimately lead to immoderate practices and impairment of the moral as well as the physical faculties, yet he believes it a direct outgrowth of the long hours of labor or confinement. Six cases are cited of persons employed in drugstores having "been forced to the wall" during the last years by "such aids to vitality," in which are included also the use of morphine.

The correspondent's assertion "that a reduction of hours means a reduction of the use of stimulants" may or may not be true, or the immoderate use of alcoholic liquors and morphine by persons employed in the drug business may be somewhat over-estimated, but it is quite likely that there is good ground for a reduction of the number of hours drugstores are kept open. From a hygienic standpoint, and, we may add also, from that of morality and economy, drugstores may be closed an hour or two earlier in the evening without any inconvenience to the public. Such action, however, requires joint agreement by all druggists in the city or town; but this, though frequently difficult, should be no permanent bar to so commendable an effort.

Following the example set by several pharmaceutical associations in this country, an English journal has compiled and tabulated 10,000 prescriptions received from representative districts of England. These show a greater variety of forms than those recently contributed to the Illinois Pharmaceutical Association, although the classification into Applications, Draughts and Drops may well have been discarded, as these forms are not recognized in scientific pharmacy. In order to awaken interest in the undertaking in question, a prize of one guinea was offered to the successful "guesser" of six articles most frequently prescribed in the collection. This opportunity was embraced by over six hundred subscribers, only one of whom, however, guessed correctly the six articles to be: spirit of chloroform, potassium bromide, wine of ipecac, sodium bicarbonate, spirit ammonia aromatic, and quinine sulphate. A surprising fact is the small proportion of morphine or opium preparations employed compared with similar returns from this country, for which our transatlantic brethren deserve to be congratulated. On the other hand, from the preponderance of aperients and sedatives appearing on the list, the inference may be drawn that John Bull's reputation of being a high liver is not altogether unfounded.

The extreme to which a patent-medicine vendor will carry his assumed privilege is strikingly illustrated in a case recently decided in a Philadelphia court. The maker of a certain article called "snuffeine" took exceptions to a statement made by Dr. Carl Seiler in a lecture delivered before the Alumni Association of the Philadelphia College of Pharmacy on "Hay Fever." The doctor, who is probably the most eminent laryngologist in America, condemned the use of powders in treating the disease, and incidentally also the use of "snuffeine," for which the nostrum-maker had the temerity to sue him for damages. The court decided, however, that the statement was a privilege held by scientific men to communicate to a professional body upon a scientific subject in which they had a common interest, and the jury rendered a verdict against the nostrum-maker. This attempt by a patent-medicine man to throttle the expression of scientific opinion is on a par with the claims and testimonials of these blatant quacks. Let "snuffeine" be snuffed out.

Even the most superficial observers have noticed that swift streams are apt to contain pure water, or at least water that contains little organic matter, while sluggish streams and ponds are generally foul. The swift-running creeks and rivulets that tumble down their rocky beds into Lake Superior are the paradise of the brook trout which shuns all foul waters, and perhaps there is no better drinking water in the world than is furnished by these sparkling streams, though in numerous instances they take their rise in peat bogs and tamarack swamps, and run through no inconsiderable portion of their courses across morasses full of rotting logs and leaves. Draw a comparison between these streams and the sluggish yazoo of the Mississippi, from which during the war many a soldier drank malaria and death, or with the slimy, foul smelling creeks whose waters creep over the Illinois prairies. What is the cause of the difference? Why is the one class foul-smelling, disagreeable to the taste, and filled with bacteria, while the other is wholesome and pure? We can give no sufficient reason for the difference except the fact that the first set of waters are *running*, while the second set are *creeping*. This is the explanation which Dr. Pehl, of St. Petersburg, has recently given of the difference in purity between the waters of the river Neva, which is a swift-running stream, and is found to contain on the average only about 300 bacteria to the cubic centimeter of its waters, while the sluggish canals that supply water from the same river to the

city of St. Petersburg are found to contain as high as 70,000 bacteria to the cubic centimeter. The difference in the mineral constituents of the waters are imperceptible, and that in the organic constituents scarcely so by chemical means. The only rational explanation, therefore, that can be offered for the difference in the number of germs is the fact that the waters of the canals or conduits are sluggish, while those of the Neva are swift. Dr. Pehl claims also to have proved by experiment that this is the cause. He subjected a quantity of water to motion for an hour by means of a centrifugal machine, and found that the number of developing germs was reduced 90 per cent. Whether the germs are destroyed mechanically or prevented from developing by the mass motion, whether the result is due to molecular motion, or whether, as seems more probable to us, it is due to the aeration of the waters and the consequent destruction by oxidation either of the germs or the organic material that supports their life, there certainly seems to be something worth the consideration of sanitarians in the theory of Dr. Pehl, for the fact of the purity of running as compared with stagnant water is too patent to be ignored.

NEARLY all the pharmaceutical and medical journals since October last contained letters and comments touching the prospects of the introduction of the metric system in practical medicine and pharmacy in this country. The agitation favoring the adoption of that excellent system by our physicians and pharmacists began prior to 1870, was at its height in 1878 to 1880, and has since quietly subsided. Partisan feeling on this question seems to be as easily excitable as it is on questions of politics or religion. Now that the battle is over, a retrospect will be interesting.

WE find that several leading journals which in 1879 and 1880 strongly favored the adoption of the French decimal system have abandoned its advocacy, and that there have been no converts the other way. The new Pharmacopœia of the United States has come in for a good deal of adverse criticism on account of its decimal proportions, as well as for the introduction of weights and measures of the metric system. In England the authorities decided against the metric system in the preparation and publication of the new British Pharmacopœia (1885). Among American pharmacists and physicians the metric army was well disciplined and cool in the beginning of the campaign, while the other side seemed to be unprepared and greatly excited, although they recovered as soon as they saw that the enemy, with its brilliant officers, was almost without men. Now it appears to us as if the metric side had lost its coolness, and the good nature has settled down upon the heaviest battalions.

THE superior merits of the metric system seem to be narrowed down to its concordance with the arithmetic of the present. The remeasurement of the terrestrial meridian may or may not give exactly identical results, and may be as impracticable as the British commission found the determination of the length of the second's pendulum. In fact, it apears probable that the only safe physical constant which is capable of practical application as a basis of metrology is one derived from the velocity of falling bodies. Whilst the theoretic meter is as good as any other theoretic standard, it is evidently no better. As to the commensurability of metric weights and measures, the liter and the kilogram are not commensurate either at + 4° C. or at the common house temperature. On the other hand, the old weights and measures are defective in all important particulars, and yet capable of being rendered, by very slight modifications, superior even to the metric system, if it be accepted as true that divisibility by two, four and eight is not inferior in practical use to decimal subdivision.

THAT so many have changed their minds on this subject does not seem to us at all surprising, for, in addition to the debatable points already mentioned, there is still another great obstacle in the way of the introduction of the metric system in American medicine and pharmacy, namely, the fact that the general standard of education among our doctors and druggists is not in favor of it—a truth which is hardly to be disposed of by demagogical exclamations stigmatizing this statement as a "base slander," etc. Any man, therefore, may well radically change his views on this subject in the course of years, and it ought not to require an unusual amount of moral courage to publicly avow that change. Men who are unable to change their minds be long to the past.

The examinations of Boards of Pharmacy must not infrequently be a source of pardonable amusement to the members at the expense of the examined. In answer to the questions in materia medica, at a recent meeting held in Chicago, the following gems were vouchsafed as replies: "Sage: What are the sources of supply of the market?" Ans.—"The wholesale houses." "Cod Liver Oil: What varieties are there, and which is considered the best?" Ans.—"Two varieties; viz., commercial and pure The pure is the best." "Creasote: From what and how obtained?" "It grows on a tree," etc. The applicant for registration qualified to distinguish himself to the above extent in pharmaceutical lore is certainly entitled to a leather medal. In view of the fact that persons whose erudition is not superior to the above frequently do present themselves for examination, it is not surprising that one member of the board has been dubbed a Lord High Executioner.

Whatever may be said in support or denial of the proposition to abolish diploma distinctions in pharmacy laws, and whatever disadvantages it may enforce upon graduates in pharmacy, past experience has amply demonstrated that to demand recognition of graduates in pharmacy is equivalent to demanding also similar recognition for graduates in medicine. Few legislatures can be persuaded to discriminate between the two classes. The question is one not only of principle, but of policy. The way to keep out unworthy graduates of all kinds is to prescribe a uniform test qualification by a Board examination.

Manufacturing chemists should be requested by all organizations of druggists to label their products as closely in accord with the pharmacopœial nomenclature as possible, and to abolish all arbitrary signs, such as F marks, and to express the strength of liquids by the degree of specific gravity, instead of Baumè.

There has been open rebellion in the Paris School of Pharmacy recently, the students resorting to the uncivil procedure of pelting the professor of botany with rotten eggs, etc. From an exchange we learn that the general council of the faculties of the Paris Academy, in which the School of Pharmacy is represented, held a special meeting on Monday morning and unanimously decided that the botanical course by Prof. Chatin should be temporarily suspended. The decision was on Tuesday posted in the halls of the college, and no lecture on botany took place. The other courses continue as usual, and are listened to with the customary decorum.

Queries and Formulæ.

WE cordially invite queries for this department on any subject of pharmaceutical interest. Correspondents will give their name and address, but initials only will be printed when desired. It is especially requested that they furnish such information as they may already possess on the subject embraced in their queries. Queries cannot be answered by letter. Communications for this department should be addressed to Editor of the WESTERN DRUGGIST, 69 Dearborn Street, Chicago.

82. ALKALINE PREPARATIONS OF RHUBARB.— C. R. Johnson (Allegheny, Pa.) asks if the medicinal activity of rhubarb is impaired by the use of alkaline menstrua. This question in the present state of our knowledge is rather difficult to answer. It is believed, however, that the most active principle of rhubarb is an acid, crysophanic acid, and in order to hold this acid in solution alkalies are used in the menstrua. Now, while the combination thus formed, no matter how frail, may represent some of the therapeutic properties of rhubarb unchanged, there is little doubt but that the properties, which depend more distinctly upon the chemical behavior of the constituents, would be considerably modified if not entirely changed. First in this respect is the astringency of the rhubarb, which property must be chiefly due to its acid character. As the preparations of rhubarb are much administered for their astringent properties, this feature may be well worthy of consideration.

83. OFFICIAL AND OFFICINAL.—C. Collins (Mendota, Ill.) desires a definition of the above terms. They are used rather promiscuously, and it is sometimes difficult to draw the line. The following taken from Lecture I of the National Institute of Pharmacy presents the distinction clearly:

The United States Pharmacopœia 1880 is now official, which means that it is at present, and, until again revised, will be the only recognized standard for the identification, strength and purity of drugs and medicines in the United States. These requirements of the Pharmacopœia are therefore said to be official; e. g., official strengths, tests, etc.; the method of preparation is likewise termed the official process.

Officinal is a term employed to designate drugs or preparations recognized in the Pharmacopœia, while remedies not recognized by the Pharmacopœia are termed unofficinal.

The correspondent also sends the following:

84. PILL EXCIPIENT.—What is the proper excipient to use in dispensing the following pills:

℞	Ferri sulphatis	gr. xxx
	Macrotin	" x
	Potassii permangan	" xv

M. et ft. pilulæ No. xxx.

We do not think that it matters what excipient is used in the above, except in so far as it admits of making a plastic mass, easily rolled out and rounded into pills. The potassium permanganate when administered internally should be used by itself, and not in conjunction with other remedies. While the other ingredients have been used for a long time for the same purpose as the potassium permanganate, they are both in the highest sense incompatible with the latter. As the potassium is decomposed by the two first mentioned, it makes no difference whether an extract or glucose or mucilage be used as excipient.

85. THE U. S. P. TABLE OF METRIC EQUIVALENTS.—J. J. Ecklin (Conway, Iowa) desires to know why the tables of equivalents for metric quantities in Attfield's Chemistry and in the U. S. P. are both contradictory. In one table 0.06 of a cubice centimeter is said to equal 0.97 minim, while in the table following the same (0.06) fraction of cubic centimeter is stated to be equivalent to 1 minim. This seeming contradiction is due solely to the desire to avoid too many decimals in the tables. We think, however, in view of the authoritative character of these tables that the decimals, when not carried out sufficiently to avoid any misunderstanding, should be indicated by a plus (+) sign. The reader is referred to the article on the metric system in the Clerks' Department of this issue.

86. BLOOD PURIFIER.—R. A. Fischer (Troytown, Ohio) sends a list of drugs, and asks our opinion as to their value as a "blood purifier," and suggestions as to the best manner of preparation. The list includes nearly all the drugs used for that purpose, no doubt upon the theory that if one or two remedies will do good, a dozen or two are bound to cure. From these we recommend the following:

Take of		
Taraxacum, chimaphila, each	av. ounces	16
Stillingia, sarsaparilla, each	"	32
Phytolacca, lappa, each	"	16
Xanthoxylum berries	"	8
Potassium iodide	"	30
Sugar	av. pounds	15
Alcohol, water of each sufficient to make	gallons	5

Exhaust the drugs, ground in a coarse powder and contained in a percolator, with 32 pints of a mixture of 12 pints of alcohol and 20 pints of water. Continue the percolation with water until 32 pints of percolate is obtained. In this dissolve the potassium iodide and sugar; strain, and add sufficient water to make 40 pints. We also give the formula adopted by the Illinois Pharmaceutical Association, for which wrappers, cartons and bottles may be obtained by applying to the Secretary of the association:

COMP. SYRUP SARSAPARILLA AND BURDOCK WITH IODIDE OF POTASSIUM.

(In 12 ounce ¾-panel bottles.)

℞	Potassium iodide	grains	320
	Water	ounces	2
	Fluid ext. burdock	"	2
	Comp. syrup sarsaparilla	"	8
	Dextrin syrup sufficient to make	"	16

Mix. Dose, 1 to 4 teaspoonfuls, according to age.

In this formula the potassium iodide is reduced one-half, as the original proportion was rather too large for general use. For the last item glucose or syrup may be used.

87. THE PRESCRIPTION ABBREVIATION "AD."—J. B. (D— Iowa) inquires if *q. s.* should be placed before *ad.* in a prescription. No; strictly speaking it is not necessary, as it is not an abbreviation of *add*, but the Latin for *to*, meaning *to* i.e. fluid ounces. In view of the fact that it is often taken to mean *add*, it is best that it be prefaced when used by *q. s.*, thus *q. s. ad.* — a sufficient quantity to—. As pointed out in this journal (page 101, 1885), this procedure will prevent misunderstanding.

88. THE OFFICINAL FORMULA FOR FLUID EXTRACT MATICO.—C. W. (Lee, Mass.) inquires why the officinal process for fluid extract of Matico directs 110 parts of menstruum instead of 100 parts for 100 parts of drug as

in the other formula for fluid extracts. The direction as to parts for menstrua in the fluid extracts is really only one of proportion, and not as to the quantity actually required, even when the same unit of weight is employed for parts. It should be remembered that in the preparation of the menstrua parts by weight (grams) are directed, while the percolate is measured by volume (cub. cent.). When, therefore, the U. S. P. directs that the menstruum for fluid extract of Matico shall consist of alcohol 75 parts, water 25 parts and glycerin 10 parts, all together 110 parts by weight, it does not follow that it requires, for example, 110 avoirdupois ounces of this mixture for 110 avoirdupois ounces of the fluid extract, but that 110 avoirdupois ounces in relative proportion of alcohol, glycerin and water is a suitable menstruum for the drug. The same objection may be found with the direction for employing 100 parts by weight of alcohol (94 per cent.) for 100 parts of drug, if grams are used for both, since the difference in volume between the 100 cubic centimeter of fluid extract and 100 grams of alcohol is over 15 per cent.; that is, the alcohol would measure about 118 C.c.

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89 GINGER ALE.—W. D. (Cin., O.): Mr. Val. Schmidt, in a paper read before the California Pharmaceutical Society, gives the following formulas, which furnish a ginger ale almost identical to the imported article. They consist of two preparations, Nos. 1 and 2:

EXTRACT No. 1.

Take of

Jamaica ginger, powd	oz. 16
Capsicum	drs. 4
Potassium bicarbonate	" 6
Diluted alcohol	pints 4

Dissolve the bicarbonate of potassium in the menstruum and percolate until four pints are obtained.

No. 2.

Take of

Syrup	fl. oz. 36
Diluted alcohol	" 10
Citric acid	drs. 2
Distilled water, sufficient to make	pints 4
Extract No. 1	fl. oz. 4

Color with caramel to a sherry, mix, and after allowing it to stand a few hours, filter.

The extract No. 2 is used at the soda fountain in the same manner as are the other syrups. From three to four fluidrams to the glass are required to produce the desired result.

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90. GONORRHŒA PASTE.—Subscriber (Chicago): The following formulas are given:

Take of

Copaiba	ounce 1
Magnesia calc	dram ½

Mix, and when solidified, incorporate

Cubeb, powdered	ounce 1
Oil peppermint	m. 5

Mix thoroughly.

ELECTUAIRE DE COPAHUE.

Officinal in the French Codex.

Copaiba	gram 100
Cubeb, pulv	" 150
Catechu "	" 50
Oil peppermint	" 3

Mix.

We venture to recommend another formula:

Copaiba	ounce 1
Milk, condensed	" ½
Oleoresin cubeb	dram 1
Licorice root powder	" 4
Tincture vanilla	" ½
Sugar	ounce 1

Emulsionize the copaiba with the milk, mix with the oleoresin of cubeb and licorice, and then add the vanilla.

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91. TOLU CHEWING GUM.—W. H. Bland (Houma, La.). A formula for this was published in this journal (page 129, '85) as follows:

Tolu	ounces 4
Benzoin	" 1
Paraffin, white wax	of each 1
Sugar, granulated	ounces 8

To the tolu and benzoin previously melted add the paraffin and wax, liquefied by heat; then gradually incorporate the sugar and roll out in sticks.

Another formula is:

Tolu	ounces 4
Chicle	" 4
Sugar, granul	" 16

To the tolu and chicle previously melted, add the sugar and incorporate while hot so that a brittle mass will be formed upon cooling.

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92. LIQUID POLISH FOR SHOES.—P. & U. (Cheboygan, Mich.) desire a formula for a good liquid polish for ladies' shoes. The following is recommended:

Lampblack	drams 1	Shellac	ounces 1½
Oil turpentine	" 4	White turpentine	drams 5
Alcohol	ounces 12	Sandarac	" 2

Make a solution by digesting the mixture in a close vessel at a gentle heat and strain. A concentrated alcoholic solution of anilin has also been employed.

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93. FOREIGN DOMESTIC REMEDIES.—F. S. (St. Paul, Minn.) desires the formulas for the following:

"*Mutter*" *Drops.* The preparation we believe originally dispensed for the above, literally "mother drops," was *tinctura castorei thebaica.* The formula is given in the Ph. Sue. as follows:

Take of

Opium	part 1
Supercarbonas ammonicus pyroleosus	" 3
Asafoetida	" 6
Castor	" 12
Alcohol dil	" 100

Make a tincture by maceration.

For extemporaneous dispensing, a mixture of tincture of cinnamon 3 parts, and tincture of castor 1 part, is mostly used.

"*Magen*" *Drops.* This is *Tinctura Amara* of the Ph. Ger.: the following is the formula:

Take of

Herb. Centarii minoris, Fruct. Aurantii immatur, Radicis Gentianæ *aa*	10.0
Rhizomatis Zedoariæ	5.0
Spirit Vini diluti	175.0

Grind to a coarse powder and make a tincture by maceration.

Max Gessler (Milwaukee, Wis.) requests formulas for the following:

94. ELY'S CREAM BALM.—We take these formulas from an exchange, the first mentioned appearing originally in the "New Idea:"

Take of

White wax	parts 60
Paraffin	" 30
Oil of sweet almonds	" 120
"Saxoline"	" 240

Melt together, stir until cold, then add

Nitrate of sodium	parts 30
Water	" 30

Previously dissolved, mix thoroughly; finally add

Oil of lemon	parts	10
Oil of orange	"	2

Another is as follows:

Carbonate of Bismuth	grains	15
Thymol	"	3
Oil of Wintergreen	"	2
"Vaseline"	ounce	1

SUBSCRIBER (Chicago, Ill) desires formula for the following:

95. CHOLERA DROPS.—A formula was published in this journal (page 186, 1884) for a mixture extensively used as a remedy for cramps, colic, etc, viz.:

Thielmann's Mixture.

Take of

Oil peppermint	fl. drams	4
Chloroform	"	4
Fluid ext. ipecac	"	3½
" valerian	fl. ounces	1¼
Tinct. opium, deod	"	1½
Ether	"	2
Alcohol	"	6
Sherry wine, sufficient to make	"	16

Mix according to art.

The adult dose is 25 to 30 drops in a little water every twenty minutes until relief is obtained. This preparation is a modification of that officinal in the Swedish Pharmacopœia, and differs materially from many of the stereotyped mixtures of capsicum, camphor and opium, in that it contains ipecac to prevent sickness at the stomach, while the valerian is of great value in allaying the nervous disturbances.

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96. FORMULA FOR GREEN'S AUGUST FLOWER was published in this journal for September, 1885, p. 246. Your other queries will have to lie over until next month.

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97. SWEATING FEET.—E. S. R. (Brainerd, Kan): Many absorbent powders have been used, for example, powdered starch containing about 2 per cent. boric or salicylic acid. The dry oleopalmiate of zinc would probably serve admirably. A process for its preparation was given in this journal for January, 1886, query No. 19. Washing the feet in a weak solution of borax and a change of socks daily have also been well recommended.

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98. ELIXIR PARALDEHYDE.—F. S. (Louisville, Ky.) The average dose of paraldehyde is five grains and the following formula is recommended:

Take of

Paraldehyde	grains	640
Elixir Orange	fl. ounces	16

Mix. Dose, one teaspoonful. It is highly recommended in the early stages of the "horrors."

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99. BALMONY.—W. S. B. (Montpelier, Ind.) desires the botanical or pharmacal name for balmony as he cannot find it in the U. S. Dispensatory. Balmony is the most common English name in the Western and Middle States for *Chelone glabra*, under which title it is recognized in the Dispensatories. The synonyms, "snakehead" and "turtlehead," are also given, but the most common name "balmony," appears only in the National Dispensatory. This is probably an oversight in the U. S. Disp.

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100. REMEDY FOR ITCH.—A. E. Remick (Pocahontas, Ill.) desires a good and reliable remedy for the itch. It has been said that in medicine there is only two real specifics namely 'quinine for fever and sulphur for the itch." An ointment prepared from two drams of sulphur (sublimed) to five drams of lard or the officinal sulphur ointment, applied morning and evening, is recommended. The officinal "alkaline sulphur ointment" may also be employed. For internal use the domestic remedy of cream of tartar and sulphur is said to be very effective.

Another formula is received from Col. L. V. B. Taylor, of Frankfort, Kan., who states it is the most successful remedy he has ever put up, and never fails of its purpose:

℞ Sulphur flor	ʒ	ii
Vaseline	ʒ	iv
Pine tar, pure	ʒ	i

Mix. Apply twice a day, washing off well before each application.

[The formula for Sea Foam does not differ from several published already this year.—ED. W. D.]

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101. PEPPERMINT.—"Reader," (Clarence, Iowa.) asks if there is any authority for writing "Tr. Iodidi." A physician in high standing, he says, makes use of the title quite frequently. There is no authority for writing "iodidi" any more than there is for writing iodini. The former is wrong because it means "iodide;" the latter has been discarded for *iodi*, the genetive of iodum, the officinal title for iodine. See U. S. P. '80.

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102. To PREVENT TAN.—C. A. Cromwell (Wadena, Minn.) Prevention of exposure to the sun is probably the only real preventive. Several formulas have been published for removing tan, such as a weak solution of zinc sulphocarbolate in rose water and glycerin, and this is probably what is wanted.

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103. HAIR GROWER.—O. H. Lichtenberg (Princeton, Wis.) We have published several formulas for preparations employed in improving the growth of the hair. See formula for "arnicated glycerole of cantharides" published in the March number. The new wool fat, lanoline, may deserve a trial.

MIXTURE OF SALICYLIC ACID AND IRON.—The following formula is contributed by Jno. C. Martin, apothecary to the New York Hospital (Pharm. Record, April 15), for the preparation of an excellent form of combining these two remedies:

℞. Acid salicylic.....gr. xx	Sodii phosphatis...gr. xxxx
Ferri pyrophosphatis..." v	Aquæ.....q. s. ft. ʒxii

M. et ft. solut.

Filter, if necessary; after which it will keep indefinitely, without precipitation. Glycerin or any syrup may be substituted for part of the water, and will improve the taste. Alcoholic, and preparations containing tannic acid are, of course, incompatible with it, and should be avoided.

SEED-LAC.—W. C. Willets (Plattsmouth, Neb.) the article which you sent for examination proves to be "Seed Lac" a variety of shellac. Lac occurs in commerce in three forms, viz., stick-lac, seed lac and shellac, the latter being the most common form in which it is used for the manufacture of varnishes.

FORMULÆ WANTED.

W. and M. (St. Paul, Minn.) Peacock's Bromides.

H. A. O. (Chicago, Ill.) Compound Damiana Powder. Possibly some relation to the "Mormon Elders' Damiana Wafers."

J. D. J. (Hearne, Tex.), Swift's Syphilitic Specific; wo

have published several formulas for this. The nearest to it may we believe, be found in the formula for a Southern cure for "spring fever" published elsewhere in this issue.

LINIMENT FOR WIRE FENCE LACERATIONS.—W. H. Pierce (Storm Lake, Iowa.) sends the following formula for a preparation which has been used with great success:

Carbolic acid.....	ounce	½
Fluid ext. arnica.....	"	1
Common black oil.....	"	15

Mix. Apply twice daily with a feather and wash sore with Castile soap, rinse, and dry thoroughly before applying liniment. "Black oil" is common lubricating oil sold by all druggists.

NOTES TO THE EDITOR.

LINIMENT FOR BARBED WIRE FENCE WOUNDS.—In reply to query for the above, carbolated petrolatum does not answer very well, as it does not heal the wound but temporarily. Ever since the infernal barb-wire fences have been in use hundreds of cattle have been most shockingly mutilated. I have recommended to farmers who have used it with invariable success the following "Fence Wire Cut," cauterizing and healing liniment:

Take of
Cupri sulphatis,
Ferri " *aa*.....℥ i
Zinci "
Aluminis *aa*.....℥ss
Aqua .....℥xvi

Pulverize the salts and add the water. Apply twice a day with a sponge. G. HARGESHEIMER, Rochester, Mfnn.

PRESCRIPTION QUERY.—A short time since I received the following prescription, written by a "traveling doctor":

℞
Fluid ext. licorice..... ℥ ii
" " wild cherry..... ℥ ii
" " hydrastis..... ℥ ii
Elixir calisaya iron strych..... ℥ vi
Sulphate of quinine..... ℥ ii
M et. sig.

Teaspoonful after meals.

There was no opportunity of seeing the physician, and the prescription must be put up, or the patient go without medicine for a month or more. Considering the mistake on quinine as evidently meaning drams instead of ounces I put up the medicine in that way and explained it so to the patient. The elixir was prepared after Kilner's formula and contains a very little acid, and a little more acid was used to dissolve the quinine. This together with the fluid extract of hydrastis was sufficient to cause the licorice to precipitate, although diluted as much as possible. In order to obtain a clear mixture it was filtered, resulting in a nice preparation leaving only a small residue. Now in the first place did I do right to change the quantity of quinine, and in the second place has a druggist any right to filter a mixture prescribed by a physician without special orders? S. GRIMES, Ia.

[To the first inquiry we answer unhesitatingly yes. The second is not so easily answered; in this particular instance the dispenser was justified in filtering the mixture because the precipitate was small and probably represented only a small portion of the active principle of the liquorice, glycyrrhizin, which is not an active constituent. When the precipitate is comparatively inert pharmaceutical elegance demands that all mixtures should be dispensed clear.—ED. W. D.]

ARQUEBUSADE WATER.—In the April number, in answer to a query I find a formula for Arquebusade Water or Vulneraria Water. As there are two kinds of Arquebusade Water, one for internal use and one for external, some mistakes may ensue, especially among the Scandinavian druggists in this country who are not acquainted with pharmacy in the old. The preparation commonly known as Arquebusade Water there, is the kind for internal use, officinal in the Pharmacopœias of Denmark, Sweden and Norway, under the name of *Spiritus Vulneraria Vinosa*, while the other, "Aqua Vulneraria Thedeni," or Mixturæ Vulnerariæ Acidi is not officinal.

The formula for Spiritus Vulneraria Vinosa is as follows.

Take of
Herbæ Absinthii
" Menthae pip
Flores Lavandulae *aa*..... parts 16
Oleum Rosmarini..... part 1
Alcohol dilut..... parts 600

Macerate 12 hours, then distill 400 parts. Shake the mixture and keep it in a well corked bottle. It should possess an aromatic odor.

Your attentive reader,
CHAS. KUHLMANN.

OMAHA, NEB. April 21, 1886

[We are obliged to our correspondent for his formula, but desire to state that the query was distinctly for Thedensche Arquebusade, the formula for which was correctly given in our last.—ED. W. D.]

We have received a number of "scraps" with hieroglyphics which we cannot reproduce; we except one from our friend Alf. Hammer, Des Moines, Iowa, who had the following returned to him by an irate customer with a package of Roman Chamomile:

"Eye Am not yousing dog fenil that Aint what eye sent for eye havnt flees take this package and fool some one else with but dont try to fool me or my children Again."

LIQUEURS AND BRANDIES.

The demand for certain prepared liquors would justify their consideration as to the best mode of preparation at least, and for these considerations the following formulas are introduced.

These formulas are constructed in such a way as to facilitate the use of ingredients easily accessible and not built up through intricate processes with the base of alcohol and sugar as is the case in their wholesale manufacture. It also aids in their extemporaneous preparation when necessary or desirable. For simplification they are divided into two classes, i. e., (1) Brandies, and (2) Liqueurs.

The following general directions may be observed: (a) all mixtures must be warmed; (b) all finished preparations should be kept from the light; (c) they should be kept in securely-closed vessels at an elevated temperature the ob ject of (a) and (c) being to promote premature ageing, and of (b) to develop the desired bouquet through the development of various ethers. Exclusion of air is, therefore, desirable by filtering into bottles, well-corked, wrapped in dark paper and kept in a warm chamber. The labeling should be done when they are used or disposed of, as the warm atmosphere would in time turn the labels yellow.

We might add in this connection that Brandies and Liq-

eurs are best to the taste when of a temperature not over 60°; the raw material should be of the best. For coloring the following are used: Tincture curcuma 1 to 5, tincture catechu, tincture of caromel, green tincture, and cochineal.

TINCTURE OF CARAMEL.

Caramel	grams 50	Water	grams 25
Alcohol	grams 25		

Dissolve the caramel in the water and add the alcohol.

GREEN TINCTURE.

Fresh grass or spinage	grams	100
Distilled water	"	1000
Carbonate of soda cryst.	"	0.5
Diluted alcohol	"	200.0

Macerate the finely cut grass in the water, in which the carbonate of soda has been dissolved, for 24 hours; express, and to the residue add the dilute alcohol and macerate for 12 hours. Then express immediately to insure a proper color; quickly filter and protect the tincture from the light in well-stopped bottles. In this connection it might be added that the best medium through which to filter brandies and liqueurs is a conical felt strainer containing shreds of filter paper through which, when suspended, a volume of hot water has been passed. The water, in passing through, leaves the paper pulp as a firm coating on the inside of the strainer; in that way representing a filter of considerable surface, filtration will take place rapidly and perfectly. This is a very satisfactory method and is applicable to many viscid liquids.

BRANDIES.

(NOTE.—Distinguished from liquors in not having sweet taste.)

Anisette.

Oil of fennel	grams .5	Chloride of sodium	grs. 10 0
Oil of anise	" 1.0	White sugar	" 200.0
Oil of star-anise	" 3.0	Spirit of nit. ether	" 25.0
Alcohol	" 4.2	Boiling water	" 5600.0
Licorice root	grams 20.0		

Dissolve the volatile oils in the alcohol, to which add the other ingredients and then the boiling water, when cold filter it.

Boonekamp of Magbitter.

Oil of bit. almo'ds	minims 2	Spirit of nit. ether	grams 30
Oil of star anise	" 3	White agaric, bruised	" 50
Oil of coriander	" 3	Licorice root, cut	" 50
Oil of majoram	" 3	Galangal root, coarse	" 100
Oil of mace	" 3	White sugar	" 200
Oil of peppermint	" 3	Cognac brandy	" 200
Oil of bitter orange	" 7	Boiling water	" 6000
Oil of absinthium	" 7	Alcohol	litres 4
Oil of angelica	" 10		

Transfer all the ingredients to a vessel of sufficient capacity, adding the hot water last; cover and allow to macerate till cold, after which filter and color the filtrate pale-yellow with tincture curcuma.

Getreide Kummel.

Oil of anise	minims 5	White sugar	grams 800
Oil of celery seed	" 5	Boiling water	" 5500
Oil of Caraway	grams 3	Alcohol	litre 4
Spirit of nit. ether	" 20		

Transfer the ingredients to a vessel of suitable size, adding the boiling water last and allow to macerate until cold, then filter.

Raspberry Spirits (Himbeergeist).

White sugar	grams 200	Powd. licorice root	gr'ms 10
Essence of raspber'y (Helfenbergs)	" 100	Sw't spirit of nitre	" 20
St. John's bread	" 100	Acetic ether	" 2
Chloride of soda	" 10	Boiling water	" 5500
		Alcohol	litre 4

Transfer to a vessel of proper size, adding the boiling water last, allow to remain until cold, and then filter.

GINGER BRANDY.

Ginger root, gr'nd	grams 200	Boiling water	grams 6000
Galangal " "	" 20	Oil of bit. alm'nds	drops 1
White sugar	" 200	Alcohol	litre 4
Spirit of nit. ether	" 20		

The ingredients are transferred to a suitable vessel, adding the hot water, then the ginger and galangal last. Cover securely, and after standing 24 hours, filter and color dark-yellow with tincture of caromel. Care must be taken to add the ginger to the diluted spirit, otherwise, owing to a solution of ginger and resin in alcohol, the finished preparation would be turbid.

CALAMUS BRANDY.

White sugar	grams 200	Boiling water	gram 6000
Spirit nit. ether	" 20	Oil of bitter alm'ds	min. 2
Oil of calamus	" 3	Alcohol	litre 4
Oil of angelica	" 0.5		

Transfer the ingredients to an appropriate vessel, adding the boiling water last; when cold, color light-brown with tincture of catechu.

Cherry Brandy (Kirschwasser).

White sugar	grams 200	Oil of bitter alm'ds	minims 7
Spirit nit. ether	" 20	Oil of cloves	" 2
Acetic ether	" 1	Oil of lemon	" 2
Boiling water	" 5500	Alcohol	litre 4.2

Transfer the ingredients to an appropriate vessel, adding the boiling water last. After cooling, filter. The finished product should be colorless.

Nordhausén Corn Brandy.

St. Jno's bread, corse gr'm	50	Spt. acetic ether	grams 1
Licorice root	" 10	Oil juniper berries	min. 2
Orris root	" 5	Essence jasmine	" 7
Chloride sodium	" 10	Boiling water	" 5600
Spt. nitrous ether	" 15	Alcohol	liter 4.4

Transfer the ingredients to a suitable vessel, adding the boiling water last; cover well, and allow to cool slowly, then filter. The St. John's bread and licorice give to it a pleasant after taste. It is usually not colored, but may be if desired, by the addition of a few drops of tincture of caramel.

Peppermint—(Peffermunz).

White sugar	grams 800	Oil of anise	minims 3
Tannin	" 5	Alcohol	litres 4
Spirit nitrous ether	" 10	Boiling water	grams 6000
Oil of peppermint	" 3		

The ingredients are transferred to a suitable vessel adding the boiling water last; when cool color green with peppermint herb or the green tincture; filter.

Slibovrits.

White sugar	grams 200	Acetic ether	grams 1
St. John's bread	" 150	Oil of almonds	minims 7
Licorice root, p'd	" 20	Oil of anise	" 1
Chloride sodium	" 15	Es'cs of Jasmine	" 7
Sp't of nitr. ether	" 20	Boiling water	" 5400
Essence of raspberry (Helfenberg)	20	Alcohol	litre 4.4

Transfer the ingredients to a suitable vessel, adding the boiling water last; when cool filter and color dark-yellow with tincture of caramel.

Juniper Brandy—(Genevre).

White sugar	grams 200	Oil of anise	grams 0.5
Chloride sodium	" 10	Oil Juniper berries	" 4.0
Sp'ts nitrous ether	" 20	Alcohol	litres 4.2
Boiling water	" 5500		

Transfer to a suitable vessel, adding the boiling water last; after cooling, filter.

Progress of Pharmacy.

THE SOLUBILITY OF SULPHUR in hot alcohol is commented upon by Bloxam (Chem. News, April 16, p. 181), who found that it is deposited upon cooling in a white, prismatic form. This fact should be borne in mind when hot alcohol comes in contact with vulcanized India rubber stoppers, so commonly used in the laboratory, and especially during processes of distillation.

THE TURBIDITY OF SOLUTIONS OF BISMUTH CITRATE commented upon some time ago, and for the prevention of which Macewan proposed a new process, has been proved by Rother (Am. Journ. Phar., May 239, 1886) to be due to the presence of one and one-quarter per cent. of bismuthyl chloride contaminated by some sulphate. The relatively small amount shows the phenomenal purity of American bismuth subnitrate.

NITROGEN BINOXIDE has been discovered by a Spanish scientist (Lancet, p. 709, 1886) to be a valuable disinfectant and germicide. Of workmen employed in an electrotyping establishment in Madrid in the different cholera epidemics none steadily at work have been afflicted. Further investigation proved that the liquid from dead bodies, upon being treated with it, lost their offensive odor and remained free from micro organism. It has been used successfully in thirty-five cases of cholera.

PHARMACEUTICAL NOTES is the title of several contributions from the School of Pharmacy at Lafayette, Ind. (Am. Journ. Phar., May, 1886) compiled by Prof. R. B. Warder. The following is a summary of the results:

OLEIC ACID.—Four samples examined by L. H. Schulmeyer contained 87, 81, 63 and 99 per cent., respectively, of pure acid.

SULPHUROUS ACID, examined by John Kennedy.—Of six specimens obtained from druggists three contained 1.68, 3.28 and 3.25 per cent. of SO_2, while the remaining contained no SO_2, but 0.54, 0.91 and 2.67 per cent. of H_2SO_4.

ANTIMONY AND POTASSIUM TARTRATE, examined by E. G. Eberhardt.—Five samples obtained from dealers and one prepared in the laboratory, all but one were free from potassium bitartrate or oxide of antimony. Nitrate of silver gave no reaction for chlorides, and ferrocyanide of potassium showed the absence of iron. Four specimens showed a trace of arsenic by Fleitman's test, one considerable, and the sixth specimen prepared in the laboratory only very slight trace. One sample only contained an objectionable amount.

CALCIUM, SULPHURETED, by J. M. Jay.—One sample examined contained 43 per cent. of sulphide.

CHLORAL.—Of four samples examined by B. D. Westenfelder one was neutral, two acid, and one slightly acid, these showing reactions with silver nitrate as clear, distinct opalescence and clear, respectively. They yielded by titration 100, 98.5, 98 and 99.3 per cent. of chloral-hydrate.

FRUIT JUICES are prepared by mashing the fruit, expressing by means of the ordinary tincture press, and allowing the expressed juice to undergo a slight fermentation. At the ordinary summer temperature this requires usually from twenty-four to thirty-six hours. The fermentation causes different albuminous substances to precipitate, whereby the juice becomes clarified, and is better preserved. It also probably causes the formation of others, by which the flavor of the juice is improved. With strawberry juice this is especially to be recommended, which otherwise is liable soon to lose its natural flavor and color and become turbid. The juice for pharmaceutical purposes is best preserved by converting it into a concentrated syrup by dissolving by heat sixteen pounds of sugar to one gallon of filtered juice. The syrup is brought to the boiling point, strained or skimmed if necessary, and then bottled whilst hot. The bottles should be completely filled and the stoppers secured with twine, and stored in a cool place. The addition of some citric acid is also recommended to give tartness to the juice, and to retain the color; it also aids in developing the flavor. When used the concentrated syrup is mixed with an equal measure of simple syrup, first diluted one-half with water. This may be done as the syrup is wanted for the fountain.

NANCE BARK, from a tree indigenous to Mexico probably, Malpigia glabra, Lin. used for tanning purposes, has been investigated (Am. Journ. Pharm. May, '86) by Ferd. Holberg. Alkaloids could not be detected but the aqueous solution rendered alkaline yielded to petroleum spirit a crystalline principle readily soluble in water but not affected by alkaloid reagents, nor did it reduce Fehling's solution. The bark was found to contain 26.2 per cent. of tannin.

THE IDENTITY OF HOPEINE, the alleged newly discovered alkaloid of hop, is not as yet established. Several English and some German chemists hold that it is identical with morphine, and it has been charged that the article sold under the name of hopeine was but a mixture of the former alkaloid. At the meeting of the Pharmaceutical Society of Great Britain, Dr. Paul reported, after investigating the substance, that hop either contained morphine, "a highly improbable thing," or that hopeine was a concocted substance and not what it is said to be. Dr. Hager (Pharm Central. page 176, '86) after an examination of a sample of the substance sold as hopeine, microchemically, comes to the conclusion that hopeine shows characteristic and entirely distinct reactions with all the reagents for alkaloids, and from the indifference of hopeine toward silver and gold salts it is especially different from morphine. So far, however, the real point at issue has not been discovered, which is not so much the identity of hopeine, as the question, Is hopeine an alkaloid obtained from hops?

M. de Vries has recently been studying the structure and use of vacuoles in protoplasm, and he concludes from the study of species of spirogyra and other plants that they are not merely cavities hollowed out in the protoplasm, but that they have a distinct inclosing membrane. He obtained the best results by experiments upon spirogyra nitida. His method was to treat the filament with a 10 per cent. solution of potassium nitrate, which rapidly withdraws the water from the cell, and disorganization finally takes place. As this process goes on, the vacuole membrane remains the longest, the vacuole appearing like a ball in the cell, the inclosing membrane retaining its tension, and being especially well seen if a little eosin be added to the solution of the nitrate so as to stain it. M. de Vries thinks the vacuole membrane is present in all cells during some stage of their development, and that it has for its function the production of turgidity in the cell.

Correspondence.

We invite brief letters for this department upon any subject of interest to the pharmacist or druggist.

The publication of communications implies no indorsement by us of their contents.

Names of correspondents will not be printed if so requested.

Address matter for this department to "Editor of the WESTERN DRUGGIST, 69 Dearborn street." To be in season for the next issue, letters should reach us not later than the 5th of the month.

DOCTORS AND THE VIRGINIA PHARMACY ACT.

(Editor of The Western Druggist.)

Noticing your comments upon the pharmacy act recently passed by the Virginia legislature, I wish to make a statement as to the causes of such an injustice being put upon the pharmacists of Virginia. As first presented by our association, while not a stringent law, it did justice to the profession, and was a step in the right direction. Unfortunately, members of the medical profession in this State, either from incapacity or a desire for notoriety, often succeed in being elected to the legislature; and it was our great misfortune that some of this class were members of the body which passed upon this law. They insisted on amending the law as it now is, and our representative, seeing there was no chance of passing the bill except in this shape (it has taken us four years to get this), accepted it, hoping, at the same time, that at some future meeting of the State legislature to have amendments adopted, so in time we would have a law in good shape. We propose going before said body every year until we get a law which will do full justice to the pharmacists of the State, and at the same time protect the public from incompetent persons compounding medicines. In my opinion a physician has no more right to compound medicines, without showing to the satisfaction of the board that he has the practical ability—nor then without complying with every requirement forced upon the pharmacist—than he has to plead before the Supreme Court of the United States without a license; for it is my experience that not one in ten can properly prepare the most ordinary prescription.

Very truly,

E. R. BECKWITH,

Secretary Board Pharmacy.

PETERSBURG, VA., April 24, 1886.

[The experience of Virginia is but a monotonous repetition of that of nearly all other States. The magnanimous physician is always eager to legislate against everybody except himself. He is willing that the public be protected against every form of incompetency except his own; for others, by their lack of education or their inexperience, to cause suffering, to prolong disease, or, perhaps, to precipitate death, is a crime, but for them it is a cherished prerogative which statutes must specifically recognize. This is the inevitable logic of the attitude assumed by most medical legislators. The hypocrisy and inordinate vanity of political physicians are written upon nearly all our State pharmacy acts. Reputable physicians owe it to themselves and their profession to see that these libelous clauses are expunged at the earliest possible day. In view of the record of the very large percentage of physicians in Board of Pharmacy examinations showing the densest ignorance of the first principles of pharmacy, the man who maintains their professional right to exemption from the qualifications required by pharmacy laws of other persons is clearly either a knave or a fool, if not both. It may, perhaps, become necessary to meet the "right" of physicians to practice pharmacy by the equal if not superior right of pharmacists to practice medicine.]

A GENTLE REMINDER TO "IRON-BITTERS."

Mr. Robert B. Watkins, of Kernersville, N. C., informs us that he replied to the insolence of a Baltimore firm, threatening wholesale prosecution of druggists who handle competing bitters, as follows:

KERNERSVILLE, N. C., April 27, 1886.

Brown Chemical Co., Baltimore, Md.:

SIRS:—Some days since I received a circular from you, stating that druggists having on hand any other preparation of iron than "Brown's Iron Tonic Bitters" must return them, as you would enter suit against such offenders. Do you take the retail druggists of this free land of ours to be a set of fools? I handle your bitters, but as soon as I can get them off my hands I will not allow another bottle to enter my establishment. I handle "N. K. Brown's Iron and Quinine Bitters," manufactured at Burlington, Vt. They are much cheaper to both the seller and consumer than your bitters, hence I expect to keep them in stock, together with any other iron preparation I wish. Should the druggists accede to your "bulldozing" circulars they ought to be fired out of the country. Should you conclude to bring suit against me notify me in time so I can have some photos taken for my friends, as you may imagine I will leave the country in great haste (?).

ROBT. B. WATKINS.

A LETTER WITH A SUGGESTION.

The following communication is taken from a Danville (Ill.) paper. It suggests what every druggist can do in his locality toward furthering desired amendments to the Illinois pharmacy act. Mr. Frantz presents all points with clearness, omitting only the important one relating to the abolition of diploma privileges:

TO THE EDITOR:—At the last meeting of the Illinois Pharmaceutical Association, at Chicago, there was a committee of five appointed on legislation to procure such amendments to our present pharmacy law as would be practical and beneficial to the trade. In order that the work of this committee may result in procuring such amendments at the coming legislature as will be of practical benefit to the druggists in our State they will need the hearty co-operation of every druggist engaged in the business; and in order to secure such amendments we must have a union that will include any druggist in the State, and use all honorable means to secure such amendments as presented by the Committee on Legislation.

We are in favor of admitting all assistants that registered when the law went into effect as pharmacists.

We want to be protected in the legitimate sale of liquors. We hold that when sold in the regular line of our trade, as we sell quinine and other medicines for legitimate need in the family, no tax should be levied or prosecutions permitted by either State or municipal authority. When sold for other purposes the full penalty should be imposed. We want every one who wishes to engage in the drug business hereafter to pass examination before the State Board of Pharmacy.

We also should be exempt from jury duty. The law requires constant attendance of a registered pharmacist in his store. It is unfair to compel a druggist to serve the State and at the same time hold him responsible for mistakes which are liable to occur because of his enforced absence from his business.

We believe the State should pay the expense of the pharmacy law. The law is popular because of its tendency to prevent incompetents from handling medicine and jeopardizing life and health. It is easily demonstrated that this law is benefiting the people of the State (and as all other boards are supported by the State), we cannot believe that

the legislature would decline to pay the expense of its enforcements if properly presented to them.

There are other needed amendments to the law, and should like to hear from the druggists throughout this legislative district of what they may suggest. And in order to secure the proper legislation it is the duty of the druggists in this district to make some effort to send a pharmacist to the next legislature, or some one that will use all honorable means to elevate our profession as pharmacists.

Respectfully yours,

J. S. FRANTZ.

DANVILLE, ILL., March 15, 1886.

AN ADDRESS BY SECRETARY JAMIESON.

To the Druggists of Illinois, Gentlemen:—The seventh annual convention of the Illinois Pharmaceutical Association will be held at Rockford, commencing Tuesday, June 8, to which all druggists of the State are cordially invited. This meeting will unquestionably prove of greater interest to the profession than any heretofore held, as the work assigned to the officers and various committees has been attended to with a vim and thoroughness rarely equaled by any similarly commissioned body of men. And I feel warranted in assuring the members and others who may come to this gathering that they will not find it necessary to visit the exhibition hall (to escape tedium) during the reports of these committees or the reading of papers to be presented, as propositions will be advanced and questions discussed of vital importance to every knight of the pestle and mortar, and it will prove mutually advantageous and beneficial to be present and take part. No druggist can afford indifference at this time. The fences are down in every direction, and the hungry horde of *commercial bushwhackers* are playing sad havoc in our former fair possessions. These raiders must be checked if we wish to continue the drug business as an honorable and respected calling and avoid bankruptcy. *To us belongs the exclusive right to manufacture and dispense anything and everything within the scope of medicine;* let us see to it that others are not permitted to interfere with our prerogatives; will you join with us in this endeavor?

Our State Legislature will meet next winter, and it is imperative that we have at least ten or twelve representatives from our ranks as members of that body; canvass your districts, and where there is a "fighting chance" of electing a druggist *regardless of politics*, communicate at once with the committee having charge of this matter (of which Chas. W. Day, Springfield, is chairman), and such assistance as is desirable or necessary will be furnished. That we are to have legislation is beyond a question; just what it will be depends upon those taking sufficient interest in the matter to make known their wishes. Don't stand on the outside and find fault that "it will do no good," but come in and take part in framing a law which will protect our interests, and by so doing benefit the people as well as ourselves.

During the session of the last Legislature a bill was introduced, and under its provisions the Medical Board was to appoint a doctor in each county whose business it should be to inspect the preparations made or offered for sale by the druggists, and whenever one should be found differing from a designated standard the druggist was to be fined $50. Now, when it is borne in mind that many preparations, even when conscientiously made, are liable to vary somewhat, the injustice of the diabolical scheme to extort money from our people may be better understood.

Another bill was introduced to amend the Harper law so that druggists should be compelled to pay the $500 license; these bills were persistently advocated by their authors and friends, and were defeated only by hard work. If such laws are to be imposed upon us without our leave the drug business will become a very expensive and dangerous occupation. But come to the meeting and let us talk these subjects over together, decide what is best to be done, and then see to it that our wishes are respected by the legislative Solons of our respective districts. Arrangements will be made with the railroads centering in Chicago and Rockford for a material reduction in fare, the benefit of which may be had by applying to the undersigned at the meeting. Good hotel accommodations may be had at Rockford at from $1.50 to $2.50 per day; those desiring to secure comfortable accommodations in advance may do so by applying to the local secretary, Mr. H. C. Porter, at as early a date as practicable in order that all may be properly cared for. Rockford is three and one-half hours' ride from Chicago, and ninety-two miles west. Those desiring to join with the party going from here may do so by notifying me a few days previous to the meeting.

This beautiful city on the Rock River is noted for its hospitality and culture, and we are sure of a right royal welcome. Let us strike for a few days' recreation and make the welkin ring with the sound of mirth and jollification.

Fraternally yours, T. N. JAMIESON,

Sec'y Ill. Pharm. Asso.

CHICAGO, May 10, 1886.

INDIANA LETTER.

[Editor The Western Druggist.]

A certain M. D., "Member of the Faculty," recently purchased some hydrogen peroxide at my store, and while waiting for the same to be properly bottled and wrapped, vouched an explanation of its therapeutic worth, and also the rationale of its action as an antiseptic and deodorizer.

"You see," said he, "it has such an affinity for oxygen, that when brought into contact with pus and such things, it takes the oxygen out of them, thus destroying them immediately, and hence purifying." I nodded assent, for it was folly to be wise where such blissful ignorance existed.

This incident furnishes cause for deep regret, but when a pharmaceutical (?) journal by incorporation in editorial matter, indorses the conjecture of a correspondent, "that the explosion of a mixture of potassium permanganate and syrup of orange indicates glycerine admixed with glucose," that's why we laugh. How very much better it would be, if a pharmaceutical editor possessed a fair knowledge of "pharmacy, chemistry and allied arts," instead of being so generously endowed with an ability to emit flatulent efforts at wit?

Having just mentioned *glucose* and *glycerin* reminds me that they are derived from the same Greek root, namely, glukus, meaning sweet. In glycerin the "u" is changed to "y," while in glucose the "u" remains unchanged.

In hydrogen, from hudor, meaning water, we have another example of "u" becoming "y." Oxygen, from oxus, furnishes still another instance, and yet although "u" is changed to "y," we have oxide not oxyde. Here it will be observed, "ide" is a formative element, and that "ox" only is retained.

Those druggists who always examine analytically their chemicals, not infrequently find abundant cause to keep the good work up; and also to have that faith which prompts most of us to rely upon labels without question, to be permanently side-tracked.

This remark is suggested because of an experience with a package bought for and labeled "sulphate of potash. The article was not tested, but when a portion was acted upon by strong sulphuric acid, abundant dark red fumes

were given off, and a solution of the same failed to give a precipitate with barium chloride. Further investigation proved the salt to be potassium nitrate, which by some mistake had been sent out for the sulphate.

What is a *real* pharmacist to do when a prescription like the following is handed to him to be filled?

Syrup Dover's Powder (Gregory's).....3 iv
Paregoric.....3 iv
M. Sig. Twenty drops every four hours.

Should he dispense Gregory's and no other?

A real pharmacist can and will make his own syrup of Dover's, and I, for one, believe that not only has he a right to fill the prescription with his own product, but that every sense of self-respect and professional pride and honor commands him to. Certainly no doctor has a right to boycott the skilled pharmacist, or dictate who shall or who shall not do his manufacturing. If M. D. has a preference he has a right to express it; but if his patient gets a perfect article he can not complain, for insistence upon his preference is equivalent to his denying one's right to practice pharmacy, and this obviously would be trespass upon his part.

Your California correspondent, "Oakland," propounds the query, "Is the present process for making solution of chlorinated soda an improvement over the process of 1870? He answers in the negative, and I desire to join with him in his opinion. Incidentally, it may be well to remark that chloride of lime of pharmacopœial requirement is quite scarce. This difficulty, however, would have to be met, no matter which formula was used; and "Oakland" conjectures correctly when he says, "I am afraid the ammonium oxalate test for lime would be sure to indicate it."

I believe a formula constructed on the plan of the Br. P. with the following modification, would be superior. Instead of simply passing the chlorine obtained from a certain quantity of hydrochloric acid and manganese dioxide into a specified quantity of sodium carbonate solution, a stronger solution than ultimately is required might be prepared, then assayed, and lastly diluted to the strength agreed upon.

The plans of the C. R. D. A. are full of interest, and I hope they will meet with a full measure of success. The drug trade is undergoing a revolution, and the result will be that finally we will be tradesmen and very little more. Ready-made pills, fluid extracts, plasters, etc., have steadily made extensive raids into the professional part of our business, and now we see a banding together of the druggists of a great city, not for the purpose of advancing and protecting pharmacy, but for the purpose of protecting trade in articles which any one is competent to handle. I take it then, that the forming of the C. R. D. A. is another sign of our ultimately losing all that appertains to what is professional about us. This state is probably now right upon us, for see what so mature a thinker and observer as Frederick Stearns says: "Now, the great proportion of the business of druggists is not what it is assumed to be, viz., dispensing business, where medicines can be dispensed by scientific men in a scientific way, and at something like a professional profit. But as it is, the druggist has become to a great extent a mere trader, and is satisfied to hand over the counter a thousand and one medicines (of which, perhaps, he knows nothing definite) at a very nominal profit at best. And now it seems that even that profit is to be swept away by the extensive scalping and cutting of prices. About two-thirds of the druggist's trade in the U. S. is with patent medicines, and a great proportion of the remaining third is in sundries, which even a barber is competent to handle." J.

OHIO LETTER.

(Editor the Weste n Druggist.)

The intestinal war at Cincinnati still rages—and the banners and streamers of "the cheapest drugstore in the city" still flutter in the breeze, although the druggists in the outskirts of the city have concluded that their self-sacrifice and philanthropy have been exercised upon an unappreciative public and have concluded to return to the practice of getting as respectable prices as possible for their goods; still the down-town druggists are at it "tooth to toe nail," and the general anticipation is that by the time they are through there will be as much left of them as there was of the famous Kilkenny cats. "Three (3) good 10c cigars for a dime" is displayed by one of the belligerents. Camphor is sold at twenty-five cents per pound, and "why be annoyed by the atrocities of those disagreeable household pests, roaches, ants and bed bugs, when the genuine Persian insect powder can be purchased for thirty-five cents a pound." Our enterprising friends might have added rats and mice to the exterminating capabilities, as this "pure insect powder" is composed of from 10 to 15 per cent. of powder and the remainder of yellow ochre and plaster paris. It would take a coroner's jury to tell whether death resulted from poison or obstruction of the bowels. That the instigator of the "cut" has taken a mortgage on his store shows in no uncertain light what the harvest will be.

But let us turn from ways that are dark and from unpleasant themes, and tell what a grand commencement the Cincinnati College of Pharmacy had at its fourteenth commencement March 18; the examinations of the college were very severe, and those who were fortunate enough to pass have certainly no reason to feel ashamed of themselves. Addresses were made by the president of the college and members of the faculty and board of trustees. The prize for the best general examination, a gold medal, was awarded. to E. A. W. Stahlhuth, Cincinnati, Ohio. To Mr. C. S. Ashbrook, of Ada, Ohio, for the best paper in chemistry, was awarded a gold medal by Prof. Judge. The gold medal of Prof. Fennel, Practical Pharmacy, was given to Ferd. A. Mueller, of Indianapolis, Ind. The gold medal of Prof. Lloyd, Pharmacy, and a microscope from Prof. Coblentz, Materia Medica, were awarded to E. A. W. Stahlhuth, of Cincinnati. The gold medal from Prof. James, Botany, was awarded to Mrs. Plattzs, Bellevue, Ky.

The banquet and ball following the exercises were at tended by nearly every druggist in the city, and it was only in the wee sma' hours that the assembly dispersed, physically fatigued and mentally refreshed.

Prof. Chas. Fennel has surprised his many friends by leaving his state of single blessedness and joining heart and fortunes with Miss S. E. Durain, a most estimable and accomplished young lady of this city.

The Ohio State Pharmaceutical Association meets June 2 in Springfield and a large attendance is expected; the exercises will be held in the opera house. The rink, a very commodious and well-lighted building, has been secured for the exhibits.

The Springfield druggists have arranged everything for the comfort of their visitors, and if they do not go home feeling that they have had a splendid time, as well as having stocked themselves with a mine of useful knowledge, the writer will avoid prognostications in the future. Prizes for the best papers read before the association have been offered by Benton, Myers & Co., of Cleveland, consisting of a pair of scales valued at $25, and a suppository mold $7.50.

It has been the usual custom of the association to elevate to its presidency the local secretary of the society and

"hereon hangs a tale," or tail, if you please, which to all appearances will not be a very docile one, but will lash into turbulence and foam the otherwise tranquil state of our beloved society. The facts of the case are these: Mr. Chas. Ludlow, of Springfield, who was elected local secretary of the society, concluded to take a trip to California, and was gone for some time. In his absence the numerous duties necessary to be attended to, owing to the coming convention, made it necessary for the local society to elect another secretary and Mr. Theo. Troupe was chosen; owing to his zeal and enterprise the success of the convention has been assured. Mr. Ludlow has just returned and generously offered to relieve Mr. Troupe of the emoluments of the office.

Another contestant, or rather a prejudiced umpire, has now put his finger in the pie and says that, although he does not wish the office himself, he is bound that no one in Springfield shall have it. He has been suffering from the mulligrubs for some time, owing to the fact that several years ago when the association was in its infancy, he volunteered to be its president, and his services being declined, has caused him to keep his flame of injured self-esteem glowing in the hope that he might some day be able to retaliate upon those at whose feet he lays his defeat. How the affair will end remains to be seen.

Mr. John Weyer, the newly appointed member of the Ohio Examining Board, is endeavoring to do all in his power to have the pharmacy law enforced. As some druggists in this city are neglecting to display their certificates or have none, Mr. Weyer hopes to have the obstacles mentioned by your Youngstown correspondent removed, either by having the prosecuting attorney in each county take the cases in hand, or else have power given them to incur the necessary expenses.

It seems that our State law is so good that some one is continually endeavoring to abridge its power. A bill is now before the House (fortunately with but little prospect of passing) permitting physicians of five years' service to register without examination. If druggists of life-long experience are compelled to pass an examination, it is certainly very unjust to permit persons of another profession to obtain certificates without doing so.

It seems to be an accepted fact in some quarters that a bill has been passed compelling druggists to inclose poisons in scarlet paper; this is a mistake; there is, however, a bill pending before the Senate for the regulation of the sale of poisons which is an improvement on the one now in existence, but if no means for the enforcement of infringements are provided, the people at large will derive but little benefit from it. CINCINNATUS.

CINCINNATI, OHIO, May 1, 1886.

KANSAS LETTER.

[Editor The Western Druggist.]

A circular has just been issued by the Kansas Pharmaceutical Association calling attention to the coming annual meeting at Emporia, June 9 and 10. Usually the association convened but for one day, but experience has taught the necessity of a two days' session. The topics for this year's discussion are said to be numerous and of vital interest to the pharmaceutical profession. Druggists are already making arrangements to attend in force, and the meeting will be, without doubt, a large one. For the first time in the history of the association, exhibits will be made.

Druggists of Kansas should bear in mind that the pharmacy law requires them to notify the secretary of the Board of Pharmacy, on the first day of July in each year, that they are still in business. After a stated time the druggist who fails to comply with this requirement will have his name stricken from the register, and it will cost him $5 to be reinstated.

A great many druggists are not living up to the law in regard to the sale of poisons. This makes it very unpleasant to the dealer who scrupulously complies with its conditions. Instances have been quoted where trade has been lost by compelling a customer to sign the poison register for some five-cent sale of a barely-poisonous drug. The buyer would claim that "he could get it at So-and-so's without that red-tape business," and from that time on "So-and-so" would receive his patronage. All this is wrong and reprehensible. The public should aid the observer of the law—not boycott him for doing right. Some prominent druggists are arranging to have prosecutions made to enforce the law, and violators had better "look out!"

It is also a positively authenticated fact that druggists do not compel certain favored customers to make out a statement in obtaining intoxicating liquors. It has been intimated by responsible parties that when statements have been made out in accordance with law, they have been systematically suppressed or destroyed, to avoid the publication of a suspiciously large number of liquor sales. Among customers who claim to have received liquor without making the necessary statement, are physicians. Doctors are not pleased with the law, regarding it as putting an embargo upon their obtaining liquor as a legitimate medicine. This makes them regard a violation of the law in their favor as laudable, rather than otherwise. Here again others' rights crop out, every such violation being an injustice to the druggist dealing in liquors honorably. The physician invariably buys some drugs at the store with the dram-shop tendency, in order to make it appear that he does not patronize it for liquor alone, and in this way the poor crank-druggist, who believes in the "moss-backed" notion that law ought to be obeyed, invariably suffers a loss of legitimate business.

Trade in Kansas has been dull without doubt, but not alarmingly so. Crops, as a whole, promise a favorable yield, and when the autumn leaves appear a large remunerative trade may be expected. M.

LAWRENCE, KAN., May 5, 1886.

In a note to the Chemist and Druggist, Mr. F. Gall gives an extract from a medical work published in 1650 by Nicholas Culpepper, "Student in Physick," concerning the preparation of a wool fat similar to lanolin, viz.:

"*The Way to Make Œsipus.*—Take wool cut off from the neck, ribs, and under the pits of the forelegs of a sheep not washed, but well wearied, wash it well in warm water so long till it have left all its fatness in the water, then press it out and lay it by, let that fat and foul water be poured from on high out of one vessel into another a long time till it be froathy, then let the froath settle, and take off the fat that swims at the top, then pour the water to and fro again, till neither more fat nor froath appears, then wash the froath with the fat in cleer water till it be cleansed from the dross and will not bite your tongue if you touch it with it; then keep ih a thick earthen clean pot in a cold place."

We are again reminded that "there is nothing new under the sun."

On the 6th of April Mr. S. B. Moore, a prominent pharmacist of Des Moines, Iowa, was attacked by footpads, beaten and robbed. He died from his injuries the first of this month. Mr. Moore was an old and valued citizen of Des Moines, unobtrusive, and was not known to have an enemy in the world.

Botany and Microscopy.

A New Glass for Optical Use.—Prof. Abbè and Dr. Schott, after numerous experiments, have finally succeeded in obtaining a very superior glass for optical purposes. A new $\frac{1}{8}$-inch, with numerical aperture of 1.4, has been constructed with this glass which, it is claimed, is decidedly superior to anything that has been heretofore constructed. With the vertical illuminator, it is said, it resolved the silvered amphipleura pellucida in beads over its entire surface with such clearness that the beads could be counted. Eye-pieces have also been constructed of the same glass, for which superior merit is claimed. The glass has a higher refractive index than either flint or crown glass, and it has other merits such that by means of it the aberrations can be much more perfectly corrected than by means of the ordinary glasses. It is not stated whether the new glass is used in the place of the crown glass or in the place of the flint glass of ordinary objectives, or whether, by producing glasses of different dispersive power, they dispense with both the ordinary kinds of glass. Only time can prove, of course, whether the new glass will be as durable or retain its polish as perfectly as the old; but if the durability of the glass is established, the discovery is certainly one which promises a great deal for the progress of optical science.

Mounting Media.—The study which in the last two or three years has been given to mounting media of high refractive index has led to some important results. It has proved that the character of the medium has much more to do with the definition of the object than was before supposed. It has been found that lines on amphipleura and other fine-lined diatoms which with the very best objectives could only be indistinctly seen in balsam, are, when mounted in sulphur or in some other of the new media of high refractive index, very sharply defined and resolved into beads, and that by means of these new media objectives of inferior quality, providing they have the requisite angle of aperture, may be made to give fair resolutions of what have been heretofore regarded as very difficult tests. But one serious objection to most of these very highly refractive media is that they have a very limited application. Diatoms are about the only objects that can be mounted in them to advantage. What would be a much more important desideratum is a media in which ordinary animal and vegetable tissues could be mounted so that structural details could be seen more distinctly than in balsam or glycerin. American storax has a higher refractive index than balsam, and has quite a wide application for mounting purposes, but a generally useful medium of still higher index would be a valuable discovery.

Bacteria and Malaria.—The researches of Klebs and Tommassi-Crudelli seem to prove beyond doubt that bacteria are the cause of malaria. They have discovered the germs in the soil of the Roman Campagna, and in other marshy grounds. The germs, they find, require moisture for their development, but not all marshes possess the germs, and not all, therefore, are malaria-producing. Now that the germ has been discovered, and can be subjected in the laboratory to the test of scientific experimentation, we may hope soon for important improvements in the mode of treatment of malarial diseases.

Cover-Glass Cements.—Dr. L. Heydenrich, of St. Petersburg, has been investigating cover-glass cements. The requisites of a good cement, he states, are:

1. It should be absolutely hermetic, and should not require frequent renewal.
2. It should be as hard as glass, and if possible, harder.
3. It should not crack or become detached.
4. It should be insoluble in the ordinary immersion fluids.

These conditions he thinks are pretty well fulfilled by a cement prepared from a mixture of amber and copal. For the purpose good clear amber should be used, and only the hardest and clearest kind of Zanzibar or East Indian copal. The solvent used is linseed oil varnish made from pure old linseed oil, and neither alcohol, chloroform, ether or any other quickly-evaporating menstruum should be used; but to hasten dessiccation, and also to obtain a cement of the proper consistency, oil of lavender in sufficient quantity is added to the mixture. Oil of lavender may even be used without the linseed oil varnish with good results. But as the preparation of the varnish from the crude materials is troublesome, and takes a considerable time, the Doctor recommends a speedier process of preparing the cement, as follows: "Take equal parts of the best, clearest and hardest amber varnish and copal varnish, mix them, and heat until all of the turpentine has been evaporated. * * * Then, after cooling, add oil of lavender to the liquid in the proportion of one-half to one, and mix well." The property of adhering to glass he finds is greatly improved if cinnabar be added. To the mixture above described he adds from 20 to 40 per cent. of artificial cinnabar, consisting of a mixture of rosin and cinnabar, and rubs it in thoroughly. The cement thus prepared contains of amber, 25 parts; copal, 25 parts; linseed oil varnish, 50 parts; oil of lavender, 50 parts; artificial cinnabar, 40 to 60 parts. Should the cement be too thick, it may be thinned by adding a sufficient quantity of oil of lavender.

The Dispersion of Plants.—There are few studies more interesting than that of the dispersion of plants. Thoreau, who, though a poet and a dreamer, was a keen observer of plants and animals, remarked how walnuts are planted by squirrels and that the instinct which impelled the animals thus to lay by a store of food for future use was often made to subserve the distribution of nut-bearing plants. We now know that the forms and structures of most fruits and seeds have reference more or less directly to their dispersion. Many fruits are made enticing to animals by their color and taste, and thereby get themselves eaten, while the comparatively indigestible seeds they contain pass through the alimentary canal of the animal and are deposited under conditions most favorable for germination. The laxative properties of many fruits doubtless subserve a similar end, as is apparently the case with the fruits of podophyllum. In some of the compositæ, as the dandelion, the adherent calyx has its limb modified into a pappus, which forms a kind of parachute, causing the fruits to be wafted oftentimes to great distances by the wind. In others, as in bidens, the pappus consists of barbed awns, which adhere to the fleece of sheep or the clothing of men, and the fruits are thus carried away. And in still others of the same order that grow along the mar-

gins of streams the pappus forms a floating apparatus, by means of which the fruits are carried away by running water. Any one who has observed the behavior of the winged fruits of the maple when the wind detaches them from the tree must be convinced that they are admirably adapted to be scattered by the wind. The wings communicate to the fruit a whirling motion as they fall, causing them to remain for a much longer period in the air, and as their detachment from the tree usually occurs when the wind is blowing, they are thus floated to a considerable distance from the parent tree. It is to be noted also that the wing serves, like the feather to an arrow, to bring the opposite or seed end of the fruit to the earth first, and in a situation most favorable for germination. But these are only a few of the many very interesting modes by which plants are dispersed.

THE FORMATION AND TRANSPORT OF CARBOHYDRATES.—Dr. Schimper has performed a long and interesting series of experiments, mainly on the leaves of Impatiens parviflora, to determine the mode of formation and transport of the carbohydrates in leaves. He first soaked the leaves in alcohol to extract the chlorophyll, and then placed them in a solution of iodine in an aqueous solution of hydrate of chloral, consisting of eight parts of the chloral to five of water, and let them soak for from twelve to twenty-four hours. The leaves are rendered transparent by the process, the starch grains within the chlorophyll bodies are caused to swell, and the iodine stains them so that they are rendered distinctly visible, and the leaf, if not too thick, can be thoroughly examined by the highest powers. The presence of glucose can be determined, and its course traced by means of the ordinary micro chemical reagents for that substance. The experiments demonstrated that the starch in passing into the soluble form was converted into glucose, that it was in this form transported into the petiole and stem, that the veins of the leaf were the channels of transport. It was also shown that the tissue of the veins chiefly concerned in the transport is almost exclusively the "conducting sheath" or the cells consisting of one or more layers at the periphery of the veins. His experiments further prove that laticiferous tissue has little or nothing to do with the transport of starch.

NEW OBJECTIVES AND EYE-PIECES.—Further information respecting the new objectives and eye-pieces designed by Prof. Abbè, of Jena, has been received. The objective is composed of ten lenses, two only of which are of silicious glass, the other eight being made of borates and phosphates. The ordinary crown and flint glasses used by opticians contain not more than six elements—O, Ca, K, Na, Pb, and Si—while the new varieties of glass contain not less than fourteen elements. The new kinds of glass used consist of different varieties of different refractive and dispersive powers. The advantages claimed for the new objectives are that they more perfectly correct both the spherical and chromatic aberrations. Their great superiority to even the best of the old form of objectives has already been demonstrated, and there can be no doubt that the new inventions considerably increase the possibilities of the microscope. The new kinds of glass are the results of five years' experimentation on the part of Dr. Schott, a chemist and experienced glass maker of Witten, Westphalia, and of Prof. Abbè, of Jena. The success of the work was made possible by the liberality of the German government, which granted a subsidy amounting to £3,000 to carry on the experiments. The credit of manufacturing the objectives and eye pieces thus far produced with the new glass is due to the Messrs. Zeiss, of Jena.

Mr. E. H. Griffith recommends a new method of labeling microscope slides. The method consists in turning by means of a turn-table at each end of the slide smooth disks of white zinc cement. The borders may be finished with colored paints to suit the fancy, and when the cement is dry the name of the object may be written on the white disk with pen and ink.

Mr. V. A. Lapham recommends the following method of staining sections: The sections are soaked for a while in water, and then transferred to a staining solution composed of aniline violet 1 part to acetic acid 300 parts, and left until sufficiently stained. The sections are now removed from the staining fluid and immersed in a solution of acetate of potash composed of one ounce of the salt to one-half ounce of distilled water. If desirable to preserve the specimens, the latter fluid may be used as a mounting medium, the cover glass being secured by a ring of cement. The process is recommended for its simplicity, the speed with which the staining may be accomplished, and the beauty of the results obtained.

Prof. John M. Coulter, in the April number of the Botanical Gazette, publishes a revision of the North American Hypericaceæ, and he requests that botanists will thoroughly examine the work during the coming season. He earnestly desires that any specimens they may find which will correct either the characters or the ranges given may be forwarded to him, that all needed corrections may be made before the work is put into permanent shape.

The last number of the Journal of the Royal Microscopical Society contains the annual address of the President of the society, Rev. W. N. Dallinger, LL. D., and also an excellent portrait of that gentleman. Few men have accomplished so much in the more difficult lines of microscopical investigation as Dr. Dallinger, or are better fitted to hold the honorable place he holds at the head of English working microscopists. The address deals mainly with his own researches on the cell nucleus as he has observed its development and changes in septic organisms. The investigations which he details are of the most difficult character, and require the very highest and best powers of the microscope, as well as the most consummate skill in its use. These and the investigations of the nucleus, in which recent German microscopical literature is so fruitful, clearly prove that the nucleus is the most living part of the organism, that it is preeminently in this part of the cell that the life resides. In investigating it the scientist is peering into the very citadel of life, and although he may be getting no nearer to the solution of the problem of what life is, the study is nevertheless one which possesses extreme fascination.

Prof. Fol claims to have discovered the microbe of rabies in sections of the spinal cord of a diseased animal. It is a very minute globule resembling a micrococcus.

Dr. T. J. Burrill states that the spores of fungi as a rule germinate best when sown upon a drop of water in which a small proportion of gum is dissolved. If the aqueous drop be put on a slide, the spores dusted on the slightly viscid fluid, and the whole kept in a moist chamber for twenty-four hours at the ordinary temperature of the laboratory, an examination will often be rewarded by an instructive exhibition of germinal tubes. The same may be said of pollen grains, though the addition of a little nectar or sugar to the fluid in this case is useful.

Clerks' Department.

BY PHARMAKON.

THE METRIC SYSTEM.

In our last we stated that all our standards of measurement were obtained from the measure of extension or the linear system, but we can go back even further. The length of the second's pendulum, which constitutes the basis of measurement, is derived from the earth's revolution, being a period of time divided from the twenty-four hours during which the earth revolves. So that while our common standards are based upon the measure of length, this length is again derived from the earth, or rather the earth's motion. This fact is of no especial importance further than to show a connection, however remote, with the terrestrial globe in the *old* system as well as in the *new*, or the metric system. It will thus be seen that however dissimilar these two systems may appear, they have a common origin.

We deem it unnecessary to recapitulate the differen weights and measures of volume and length of the metric system, but only to show how far both are derived from the same source. The measure of length is the *metric*, which is the ten-millionth of the circumference of the earth, or the meridian, the circumference of the earth being estimated at 40,000,000 meters. The one-hundredth part of the meter is termed a *centi*-meter, and its cube is called a *cubic* centimeter.

This cubic centimeter is the standard measure of capacity of volume, 1,000 making the *Liter*. The weight of a cubic centimeter of distilled water at its maximum density (4° C.) is said to be one *gram*, and 1,000 grams make one *kilo*, or one kilogram.

It will thus be seen that in this construction of the metric system the same combination of measure of length and unvarying (except when modified by temperature) substance, water, have been employed under nearly similar conditions. But here the similarity ceases, because, while in the old system nearly all the lesser denominations are derived by fractional division from even numbers susceptible of equal subdivision down to the lowest unit, in the metric system the subdivision is entirely decimal, and susceptible of being subdivided only once without acquiring unwieldy fractions. These fractions are termed unwieldy because more numbers are required to express the quantity, or different denominations are necessary if fractions are to be avoided. Take, for example, the pint and the liter; the successive fractional divisions would be as follows when divided in half:

U. S. MEASURE.		METRIC MEASURE Cub. centim.
1 pint	— 16 fl. ounces.	1 liter — 1000
½ "	— 8 "	½ " — 500
¼ "	— 4 "	¼ " — 250
⅛ "	— 2 "	⅛ " — 125
1-16 "	— 1 "	1-16 " — 62.5
1-32 "	— 4 fl. drams.	1-32 " — 31.25
1-64 "	— 2 "	1-64 " — 15.625
1-128 "	— 1 "	1-128 " — 7.8125

Now, these fractions would be of no importance if in the use of the metric system practically we could carry out the metric idea of division by decimals; the system in that case would be preferable to our old system, as the division is so easily effected by simply moving the decimal point to the left. As long, however, as teaspoonsful and tablespoonsful, pint and pound, are in common use the decimal division is entirely impracticable.

We have only briefly pointed out the disadvantages of the system in practical pharmacy in this respect, but as it will be used more or less in prescriptions, a ready method for converting the metric quantities into their approximate equivalents in troy weight and fluid measure is desirable. In order to effect the conversion it is necessary to take the equivalent of the gram in grains in round numbers, as the fractions would entail too much figuring. The gram is equivalent to 15 432 grains, a number which is easily remembered, as it is made up of the *first five* numerals in reversed order except the figure 1. To avoid fractions of the grain two methods have been employed, first, by taking the equivalent in round numbers at 16 grains; second, to discard the fraction, leaving 15 grains, equivalent to 1 gram. It will be seen that either method has the disadvantage of not obtaining the correct equivalent by one-half a grain. The difference, however, is slightly in favor of taking 15 grains as the equivalent, because the increase is not quite so great as the deficiency would be at 16 grains. If we also take into consideration that our prescription weights are rather light than heavy, the increase will amount to very little, and is practically scarcely worth considering. This number has the advantage, moreover, when multiplied by 4, of being equivalent to 60 grains, or 1 dram, so that we can say 1 dram is equal to 4 grams, thus greatly simplifying matters. We may now multiply the 4 grams by 8, and obtain 1 troy ounce, equal to 32 grams; 32 grams multiplied by 12 gives 1 troy pound, equal to 384 grams.

But it is in converting the metric quantities into grains that the number 15 as an equivalent is the most useful. For example, any number of grams or fractions (decimal) may be at once converted to grains by multiplying as follows: $486.0 \times 15 = 7{,}290$ grains. The largest number may thus be quickly converted, and with *even* numbers the process may be still more greatly simplified by multiplying first by 10 and then by 5, or by dividing each figure by 2, placing the result directly under the original, and adding them; the sum multiplied by 10 (by moving the decimal one point to the left) represents the equivalent in grains.

The manner of writing the metric quantities in prescriptions is of considerable importance. Pointing off the quantity from the whole number is that commonly employed, but owing to the liability of the , being misplaced, or rendered illegible, this method is not to be commended in writing prescriptions. Another form has been quite extensively adopted in prescription blanks with separate columns for the different denominations, similar to "bill-heads." But the method which is entitled to preference is the use of certain abbreviations for each metric denomination, placed after the figures. This method is a sort of compromise in the form of expression of the new system with the old symbols or abbreviations. In order to obtain uniformity in these abbreviations, the International Congress of Metric Weights and Measures adopted the following linear signs, to be in italics when printed, and not to be followed by a period:

Meter..... *m*	Millimeter.....*mm*
Decimeter.....*dm*	Kilometer..... *km*
Centimeter..... *cm*	

In Surface or square measures the above abbreviations are used, the figure 2 being affixed after each, thus: m^2 dm^2, cm^2, mm^2, km^2.

In volume the same abbreviations are employed, with the superior figure 3 as a suffix, as for example:

m^3, dm^3, cm^3, mm^3, km^3.

Each being divisions of a cubic meter and designated accordingly—cubic decimeter, cubic centimeter, etc.

In measures of capacity the following are used:

Liter.....	*l*	Centiliter.....	*cl*
Deciliter.....	*dl*	Hectoliter..	*hl*

In Weights the following, also written as shown in the third column:

Kilogram	*kg*	1000.0	Decigram.....	*dg*	0.1
Decagram.....*dkg*....		10.0	Centigram ...	*cg*	0.01
Gram.....	*g*....	1.0	Milligram.....*mg*....		0.001

As these abbreviations are sometimes used in prescription writing, it is well to be familiar with them. Only about one year ago a druggist took the abbreviation *mg* to mean *gram*, and dispensed in consequence 1,000 times more atropine in a mixture than was prescribed by the physician.

Eight hours a day will scarcely ever be the rule in the drug business, but in very many cases it ought to be practicable to adopt an earlier hour for closing than has been the custom.

It has heretofore been taken for granted that gum arabic is a product of the degradation of cellulose, because this is known to be the origin of some gums, but the recent investigations of Herr Kraus prove pretty conclusively that this is not the case. He has studied the exudation of the gum of acacia melanoxylon, and finds that it is formed in the bark and not in the wood, that it is found in the bast layer or liber and not in the parenchyma outside of the latter, that the bast fibers themselves, however, have no share in its secretion, but that it flows from the soft bast and particularly from the sieve tubes, and not as a degradation product, but as a true secretion in the interior of the cells, flowing out through the unchanged cell walls. If the observations of Herr Kraus are fully verified, it will afford one more illustration of the fact that it is utterly unsafe to take things for granted in science.

To Render Corks Ether-Tight.—It is well known that ordinary corks very soon become porous to the vapors of ether, benzol and other volatile liquids, which gradually carry off every trace of moisture, according to Neumann. By coating the corks with a solution prepared from 4 parts of gelatin, 52 parts of boiling water and 1 part of ammonium bichromate (added to the filtered gelatin solution), and then exposing them a few days to sunlight, absolutely tight stoppers will be obtained. The apparatus may be put together with unprepared sound corks, and the exposed portions of the latter afterward coated and exposed to sunlight. It is well known that gelatin, in presence of bichromates, is also rendered insoluble in water by exposure to light.

Bengal Light Balls are made by Schmidt (Chem. Cent.) from a mixture of 100 parts of collodion, from 1 to 10 parts of magnesium-dust, and 3 parts of barium chloride or strontium nitrate. After the evaporation of the ether by exposing the mixture in shallow pans to the air, the residue is pressed or formed into balls for pyrotechnic displays.

REVIEWS.

Proceedings of the American Pharmaceutical Association at the Thirty-Third Annual Meeting, held at Pittsburg, Pa, September, 1885. Philadelphia, 1886.

The present volume is somewhat larger than the editions of several preceding years, that of last year, which contained the decennial index, excepted. The report on the progress of pharmacy covers nearly 350 pages, the remaining pages being devoted to the report of the committees on drug market, legislation, and proprietary medicines, and the papers read or presented at the meeting, together with the discussion thereon. The last mentioned is really the most valuable portion of the report, because of being uniformly accurate, in strong contrast to the garbled reports sent out shortly after the meeting. As for the papers these, of course, have by this time taken their places in the literature of the past. The record of the progress of pharmacy seems to have this year, more than upon any previous occasion, been a most exclusive one. One would be led to conclude from the report that one foreign and two home journals represent the sum total of pharmaceutical periodical literature. The existence of the Druggists' Circular and the Pharm. Rundschau, of New York, and a number of other journals of acknowledged reputation, are almost wholly ignored. That this exclusiveness is not enforced is shown by the fact that one of these journals is entirely devoted to professional advancement, and contributes its full share of pharmaceutical progress, though in a foreign tongue. A better appreciation of this fact, and a more equitable report of the real progress of pharmacy, would redound to the value of the annual report, and lend strength to the association. The book is well printed, but not too securely bound. The frontispiece is that of the late Henry B. Parsons, of New York, whose untimely demise we chronicled last year.

The Druggists' General Receipt Book, comprising a copious Veterinary Formulary, numerous recipes for Patent and Proprietary medicines, druggists' nostrums, perfumery and cosmetics, beverages, dietetic articles and condiments, photographic chemicals and formulæ, "trade chemicals," scientific processes, and an Appendix of useful tables. By Henry Beasley. Ninth edition. Philadelphia: P. Blakiston, Son & Co., 1886. Chicago: G. P. Engelhard & Co. Price, $2.25.

This work is probably the oldest of the popular receipt-books, and the favor it has met with is indicated by the fact that it has reached the ninth edition. It covers a variety of subjects and presents much information not otherwise easily attainable in a compact and readily accessible form. The contents are well outlined in the title above, and no further comment as to the scope of the work is necessary. While many formulas are of little, if any, use in this country, still the book, as a whole, is to be preferred to the native receipt-books, which are usually too unreliable to be at all trustworthy. It is divided into the several departments as outlined in the title, but we believe the convenience of readers would be best served by adopting an alphabetic arrangement throughout; this would also dispose of the index now necessary. The part devoted to Veterinary Materia Medica should be in the last portion of the book instead of the first. With these modifications the work will be a handy receipt-book for the druggist.

Calendar of the University of Michigan for 1885–1886 Ann Arbor. Published by the University, 1886.

A pamphlet of over 200 pages, showing a flourishing condition of this institution, and a creditable management.

Societies and Colleges.

BULLETIN OF PHARMACEUTICAL ASSOCIATIONS.

For information upon any subject relating to the affairs of any association, address the Secretary. For information regarding commercial exhibits, address the Local Secretary at the postoffice designated as the place of meeting. Blanks in the table will be filled out on receipt of the required information, which we shall be pleased to receive from the Secretary or other officer.

PH. ASSOCIATION.	PRESIDENT.	SECRETARY.	TREASURER.	PLACE AND TIME OF MEETING.	LOCAL SECRETARY.
Am. Phar. Asso.	Jos. T. Roberts, Baltimore, Md	J. M. Maisch, Philadelphia	C. A. Tufts, Dover, N. H.	Providence, R. I., Sept. 7	W. B. Blanding
N. R. D. A.	E. A. Sayre, Brooklyn, N.Y.	J. W. Colcord, Lynn, Mass.	F. H. Masi, Norfolk, Va.	Providence, R.I., Sept. 6	.....
N. W. D. A.	M. N. Kline, Philadelphia.	A. M. Merriam, Minneapolis, Minn.	S. M. Strong, Cleveland, O.	"Minneapolis-St. Paul," Sept. 21	.....
STATE ASSOCIATIONS.					
Alabama.....	A. L. Slottenwrecker, Birmingham.	P. C. Candidus, Mobile	.....	Birmingham, May 11	G. M. Baine
Arkansas.....	.....	J. B. Bond, Little Rock	.....	Little Rock, April	.....
California.....	.....	Chas. Troppman, San. F.	.....	.....	.....
Connecticut.....	F. M. Wilson, Willimantic.	F. Wilcox, Waterbury	G. P. Chandler, Hartford	Meriden, 1887.	John H. Parker.
Delaware.....	.....	.....	.....	.....	
Florida.....	.....	.....	.....	.....	
Georgia.....	H. G. Hutchinson.	W. S. Parks, Atlanta	.....	Savannah, April 13	
Illinois.....	T. H. Patterson, Chicago.	T. N. Jamieson, Chicago	B. F. Gardner, Atlanta	Rockford, June 8.	J. R. Porter
Indiana.....	August Detzer, Ft. Wayne.	Jos. R. Perry, Indianapolis	Emil Martin, Indianapolis	Lafayette June 8.	David Hilt
Iowa.....	A. H. Miles, Des Moines.	R. M. Upson, Marshalltown	C. H. Ward, Des Moines	Waterloo, May, 1887.	C. D. Wangler
Kansas.....	H. W. Spangler, Perry.	John T. Moore, Lawrence	C. D. Barnes, Abilene	Emporia June 9	D. W. Morris.
Kentucky.....	H W. Evans, Danville.	J. T. Cook, Harrodsburg	J. J. Brooks, Richmond	Bowling Green, May 5	W. Turner
Louisiana.....	O. Robin.	Mrs. E. Rudolph, N. O.	J. B. Lavigne.	New Orleans, April '87	.....
Maine.....	.....	.....	.....	.....	.....
Maryland	D. E. Erichson, Baltimore.	M. L. Byers, Hagerstown	.....	Annapolis, June 1—	.....
Massachusetts...	Frank M. Pease, Lee.....	J. W. Colcord, Lynn	F. H. Butler, Lowell	Boston, June 2—	Henry Canning
Michigan.....	H. J. Brown, Ann Arbor.	Stanley E. Parkill, Owosso	Wm. Dupont, Detroit	Grand Rapids, Oct. 12	Wm. L. White
Minnesota... ...	S. W. Melendy, Minne'lis	W. S. Getty, St. Paul	J. C. Hening, Stillwater	Minneapolis, June 15	Jos. R. Hoffin.
Mississippi.....	J. P. Finlay, Greenville	H. F. West, Fayette	W. R. Brenning, Natchez	Jackson, May 18	....
Missouri..... .	A. T. Fleischman, Sedalia	G. H. C. Klie, St. Louis	J. M. Good, St. Louis	Sweet Springs, June 15	.....
Nebraska.....	H. D. Boyden, Grand Island	F. P. Zimmer, Grand Island	C. F. Goodman, Omaha	Omaha, May 11	C. J. Daubach
New Hampshire	M. S. Woodman, W. Lebanon	G. F. Underhill, Concord	....	—— Oct.	.....
New Jersey.....	W. M. Townley, Newark	R. H. Van Sant, Trenton	Wm Rust, New Brunswick	Newark, May 19	.....
New York	T. J Macmahan, New York	C. W. Holmes, Elmira	C. H. Butler, Oswego	Rochester, June 8	C. H. Haskin
North Carolina.	H. R. Herne, Fayetteville.	J. C. Munda, Statesville	A. S. Lee, Raleigh.	Fayetteville, Aug. 11	B. E. Sedberry
Ohio....	W. M. Melville, Sandusky	L. C. Hopp, Cleveland	Chas. Huston, Columbus	Springfield. June 8	Chas. Ludlow
Pennsylvania...	C. T. George, Harrisburg	J. A. Miller, Harrisburg	J. L. Lemberger, Lebanon	Lebanon, June 8	J. H. Redsecher
Rhode Island...	Wm. K. Reynolds	H. I. Leith	John E. Potter	Providence.	.....
South Carolina..	.....	P. Wineman, Charleston	....	.....	.....
Tennessee.....	.....	.....	.....	Knoxville, May 12.	.....
Texas.....	G. Kalteyer, San Antonio	Dr. G. Rice, San Antonio	E. W. Lancaster, Marshall	Dallas, April 27.	E. A. Eisenlohr
Vermont.....	.....	.....	.....	.....	.....
Virginia	J. W. Thomas, Norfolk	E. R. Beckwith, Petersburg	F. H. Masi, Norfolk	Alexandria, May 11	E. Warfield.....
West Virginia..	Jas. A. Grant, Grafton.	C. Mœnkemoller, Wheeling	.....	Wheeling, June 8	.....
Wisconsin.....	F. F. Prentice, Janesvil'e	E. B. Heimstreet, Janesville	W. P. Clarke, Milton	Tuesday, Aug. 10	F. M. Givens ...

STATE BOARDS OF PHARMACY.

Following are the officers and members of the various State Boards of Pharmacy; in each case the name of the President is given first and that of the Secretary last. States not named in this list have no pharmacy law:

CONNECTICUT.—Emil A. Gessner, New Haven; N. Douglas Sevin Norwich; Frank Gallagher, M. D., New Haven

GEORGIA.—Edward Barry, Augusta; J. S. Pemberton, Atlanta; O. Butler, Savannah; John Ingalls, Macon; I. Zacharias, Bainbridge.

ILLINOIS.—George Buck, Chicago; Herman Schroeder, Quincy; J. E. Espey, Bloomington; A. E. Ebert, Chicago; C. W. Day, Springfield.

IOWA.—G H Schaefer, Fort Madison; R W. Crawford, Fort Dodge; C. A. Weaver, Des Moines.

KANSAS.—R. F. Bryant, Lincoln; W. A. Stanford, Florence; C. J. Butin, Fredonia; Peter Eager, Wyandotte; James I. Taylor, Atchison.

KENTUCKY.—* * *

MAINE.—* * *

MASSACHUSETTS.—* * *

MICHIGAN.—O. E. Eberbach, Ann Arbor; James Vernor, Detroit; F. J. H. Van Emster, Bay City; Geo. McDonald, Kalamazoo; Jacob Jessor, Muskegon.

MINNESOTA.—S. L. Crocker, Faribault; Gordon Webster, Minneapolis; T. F. H. Stark, Minneapolis; W. S. Getty, St. Paul; R. O. Sweeney, St. Paul.

MISSOURI.—P. H. Franklin, Marshall; W. T. Ford, Kansas City; M. W. Alexander, St. Louis.

NEW HAMPSHIRE.—Chas. A. Tufts, Dover; Chas. F. Hildreth, Suncook; Edward H. Currier, Manchester; Geo. F. Underhill, Concord.

NEW JERSEY.—* * *

NEW YORK.—A. B. Husted, Albany; Chas. K. Brown, Deposit; J. Hungerford Smith, Au Sable Forks; Chas. H. Hashin, Rochester; Edward S. Dawson, Jr., Syracuse.

NORTH CAROLINA.—W. H. Green, Wilmington; E. M. Nadal, Wilson; John Tull, Morgantown; E. H. Meadows, New Berne; W. Simpson, Raleigh.

OHIO.—John A. Nipgen, Chillicothe; F. T. Bower, Toledo; John Weyer, Cincinnati: E. M. Hatton, Zanesville; P. H. Bruck, Columbus.

RHODE ISLAND.—Wm. B. Blanding, Providence; W. E. Clarke, Providence; James H. Taylor, Newport; Wm. H. Catton, Newport; Albert B. Collins, Westerly; Henry M. Dudley, Woonsocket; Norman N. Mason, Providence (Register).

VIRGINIA.—J. W. Thomas, Jr., Norfolk: T. Roberts Baker, Richmond; Edgar Warfield, Alexandria: Robert Boyden, Danville; E. R. Beckwith, Petersburg.

WEST VIRGINIA.—E. L. Boggs, Charlestown; J. W. S. Baker, Martinsburg; C. D. J. Bingell, Wheeling; A. W. Williams, Parkersburg;

WISCONSIN.—Adam Conrath, Milwaukee: A. H. Hollister, Madison, F. Robinson, Kenosha; T. H. Spence, La Crosse; E. B. Heimstreet. Janesville.

WYOMING.—A. R. Troxell, Cheyenne. * * *

MASSACHUSETTS COLLEGE OF PHARMACY.—The eighteenth annual commencement exercises of the Massachusetts College of Pharmacy were held at the Meionaon May 5. The members of the graduating class, twenty in number, were: Albert Edward Bailey, *Henry Atherton Baker, Charles Andrews Blair, Everett Ellsworth Burdett, Frederick William Connolly, Frank Otis Covell, *James Samuel Eckley, *Frederick Willis Fish, Charles Russell Garratt, William Fiske Greene, George Henry Hartwell, George William Koester, Michael Francis Lyons, *Albert Benton Morgan, *Charles Kimball Raynsford, *William Lincoln Stearns, Frank Bradford Twitchell, Dura Wadsworth, Jr., Samuel Austin Wallace, Romondo Cliffo:d Ware. An asterisk indicates that the graduate was entitled to honorable mention for having successfully passed in elective courses. The Meionaon, the platform of which

was prettily decorated with plants and flowers, was crowded with friends of the graduates. The proceedings were interspersed with musical selections. Introductory remarks were made by President Henry Canning, and then faculty prizes for the best theses were presented as follows: First prize, William L. Stearns; second prize, Henry A. Baker; third prize, James S. Eckley. Faculty prizes for the highest rank were presented to: Senior class, Everett E. Burdett and Dura Wadsworth, Jr. (rank equal); Junior class, Hermann Heinritz. The presentation was made by Professor Charles P. Pengra, Ph. C, M. D. Professor Bedford, of New York, was then introduced, and made a brief address. The valedictory address for the faculty was made by Prof. George F. H. Markoe, and that for the class by Mr. Henry A. Baker. The roll of the graduates was then called by Mr. Charles C. Williams, secretary, and President Henry Canning conferred the degree of Ph. G. upon the members of the class, congratulating them upon the high average standing which they took in their examinations. In the course of the evening Mr. Connolly, on behalf of the class, presented to the college a purse of money for the building fund and the class portraits. Mr. H. K. Appleton made the response.

ANNUAL MEETING ST. LOUIS COLLEGE OF PHARMACY.—The annual meeting of the St. Louis College of Pharmacy occurred in their building last Monday. There was an average attendance of members, and an interesting meeting. The secretary read a synopsis of the minutes of the board meetings for the past year. They made a good showing for the college, which is in a prosperous condition. A number of alterations to the by-laws were proposed, and a committee of five appointed to consider revising them and report at the next meeting. The college added $300 to their sinking fund.

The following officers were elected for the ensuing year: President, J. C. Kirkbride; vice-president, Louis Schurk; secretary, W. C. Bolm; corresponding secretary, H. M. Whelpley; treasurer, Solomon Boehm. Messrs. Dr. H. E. Ahlbrandt, A. P. Kaltwasser and George Ude were elected to fill vacancies in the board of trustees. After the adjournment of the annual meeting, the board met and organized. F. W. Sennewald was chosen chairman.

H. M. WHELPLEY, Corresponding Secretary.

ANNUAL MEETING OF THE WISCONSIN BOARD OF PHARMACY.—At the recent meeting of the board the secretary made a report of the proceedings of the past year. Five meetings were held during the year; there were 126 applicants for examination, of which number 56 passed and were received as licentiates, 13 received second grade or minor certificates, and 57 persons failed to pass. The total number of applicants for examination since the passage of the law has been 330, of which number 178 have become licentiates, and 39 minor certificates were granted, 113 failing to pass the required standing. The work of the board for the past four years has been:

	1883.	1884.	1885.	1886.
Applicants for examination	30	88	86	126
Licentiate certificates granted	21	56	45	56
Minor certificates granted	3	11	13	13
Rejected	6	21	29	57

One hundred and fifty-one registered; 8 minor and 41 assistants have left the State or gone out of business; 26 registered, 1 minor and 3 assistants have died; 5 minor and 35 assistants have passed examination, taking licentiates and having old certificates canceled. There are in the State at this date 1,222 registered druggists, of whom 92 are graduates and 403 are licentiates.

The board has taken prompt action the last year in the matter of violations of the law, as it is presumed that by this time all are familiar with it. The report shows as follows:

August, 1885.—F. F. Rabbas, of Alma, Buffalo county, keeping pharmacy with no registered person in charge. Fined $50 and costs. Paid.

November, 1835.—J. W. Hicks, Albany, Green county, same. Fined $50 and costs. Paid.

March, 1836.—H. B. Gifford, Orford, Rock county, same. Judgment for defendant. Case appealed to circuit court.

April, 1836.—Young & Pellett, Oconomowoc, Waukesha county, same. Fined $50 and costs. Paid.

This makes a total of four cases, three of which were decided in favor of the law. The other case will be carried to the Supreme Court, to test the constitutionality of the law.

The expense of the board has been about the same as in former years, the secretary receiving a salary of $300 per annum. The other members receive $5 per day for each day spent in active service.

At a subsequent session of the board 34 candidates presented themselves for examination, which took up the entire day. Thursday was taken up with an examination of the papers. The examination resulted as follows: Of the 34 candidates 16 passed, taking full certificates as licentiates, 4 as minors, and 14 were rejected. The names of the fortunate ones are appended:

First grade or Licentiate Certificates.—Wm. Browning, of Mineral Point; George H. Kesten, Otto Bierbach, E. Kettler and J. F. Rauschereberger, of Milwaukee; K. O. Kuntzen, of Manitowoc; J. H. Murphy, of Appleton; G. W. Luck, of Juneau; L. M. Young, of Oconomowoc; J. C. Petty, of Antigo; G. A. Eggers, of Wausau; C. H. Babcock, of Little Prairie; E. A. Fischer, of Baraboo; J. W. Richards, of La Crosse; L. H. Pelton, of Waupaca, and J. L. Williams, of Shawano.

Second or Minor Certificates.—E. E. Gains, of Rhinelander; Walter H. Peck, of Downing; E. S. Garner, of Boaz, and Chas. Taylor, of Oxford.

F. Robinson, of Kenosha, was elected president of the board for the coming year, and E. B. Heimstreet, of Janesville, secretary. The salary of the secretary was fixed at $400 per annum. His bonds were fixed at $2,000. The fee for registration as a pharmacist was established at $1 and as an assistant at 50 cents.

After transacting some additional business the board adjourned to meet at La Crosse for the examination of candidates June 16. The meeting following that will be held at Fond du Lac Friday, Aug. 13. At both places the examinations will begin at 9 A. M.

THE CHICAGO COLLEGE OF PHARMACY.—The attendance in the summer course at the Chicago College of Pharmacy is very nearly double what it was during the last summer's session. Last year the college graduated one student in its summer course; this year it will in all probability graduate nearly forty students. The following figures taken from the roll of graduates attest the growth and prosperity of the college:

1861	2	1879	14
1871	1	1880	18
1873	3	1881	21
1874	9	1882	21
1875	9	1883	27
1876	10	1884	56
1877	4	1885	62
1878	14	1886	67

From present indications the list of graduates for the year 1886 will be swelled to 102, or more than ten times as many as were graduated ten years ago. No one familiar with the history of the college can deny, either, that its progress in other respects has kept pace with the progress in the number of students. The college occupies a fine

three-story and basement building, built especially for its purposes, on State street, where the most ample facilities for instruction and laboratory work are provided for the students. The college has also gradually extended and perfected its courses of instruction. Besides the regular lectureships in chemistry, materia medica, botany and pharmacy with which the college began, there are now added three laboratory courses—one in pharmacy, one in chemistry, and one in microscopy—and all the laboratories are amply provided with the most approved apparatus and equipment for laboratory work. The college may justly take pride in its growth and prosperity.

OHIO PHARMACEUTICAL ASSOCIATION.

The eighth annual meeting of the Ohio State Pharmaceutical Association will be held in Black's Opera House, Springfield, Ohio, commencing at 10:30 A. M., Wednesday, June 2, 1886.

The exhibit of pharmaceuticals, etc., will be held in Mikado Rink, only one square from the opera house. For information regarding the exhibition, write Mr. Theo. Troupe, Springfield. Arcade Hotel will be headquarters; rates, $2.50 per day. Lagonda House, $2 per day. Reduced rates on railroads to Springfield from any point in the State have been secured. To obtain these rates an order must be had from the Secretary before starting.

LEWIS C. HOPP, Secretary,
Euclid avenue, corner Erie street, Cleveland, Ohio.

ANNOUNCEMENT NEW YORK STATE PHARMACEUTICAL ASSOCIATION.—The eighth annual meeting of this association will be held in the council chamber, Rochester, on Tuesday, Wednesday and Thursday, the 8th, 9th and 10th of June next. The Powers hotel has been selected as headquarters for the association. The exhibit will be located in the hotel adjoining the main office, which makes it easy of access, and specially advantageous to exhibitors. No charge will be made for space. The trunk line railroads, viz.: N. Y. Central, West Shore, D. L. & W. and Erie have made a special rate of three cents per mile one way, for the round trip, to members and their families upon presentation of the secretary's certificate of membership to the ticket agent. Sale of tickets to begin June 6 and good for return until June 14, inclusive. Members who travel over either of these roads should apply at once to the secretary for the ticket certificate before it is forgotten. The Committee on Entertainment, aided by the local secretary, have arranged an attractive social programme with special reference to the ladies. Send to the secretary, Clay W. Holmes, Elmira, N. Y., for blank membership applications.

ANNOUNCEMENT MASSACHUSETTS STATE PHARMACEUTICAL ASSOCIATION.—The fifth annual meeting of the M. S. P. A will be held at the Revere House, Boston, June 1, 2, 3, 1886. The convention will be called to order at 2:30 P. M., June 1. Headquarters at the Revere House. Rates to members and friends reduced to $3 per day. The entertainment committee have arranged an excellent series of entertainments, tickets to which will be furnished free to visiting members and their ladies. The scientific and pharmaceutical programme, consisting of papers, discussions, reports, etc, will be found to be unusually interesting. The committee on increase of membership, appointed early in March to canvass the various cities and towns, are earnestly requested to complete their labors and report at as early a day as possible.

J. W. COLCORD, Secretary.

LYNN, May 7, 1886.

ILLINOIS COLLEGE OF PHARMACY.—Since our last issue a new college of pharmacy under that title has been incorporated in Chicago. The trustees are: E. H. Sargent, President; H. S. Maynard, Vice-President; T. H. Patterson, Secretary; Wilhelm Bodemann, Treasurer; and D. K. Dyche, Chairman of the Committee on Education. The faculty consists of Professors Oscar Oldberg and John H. Long, formerly of the Chicago College of Pharmacy, and Professor W. Kerr Higley. John Conrad, Ph. G., has accepted a position as Instructor in Dispensing. The first course will commence in the autumn. The new college will be located in the building heretofore occupied by the Chicago Public Library, corner Lake and Dearborn streets, opposite the Tremont House.

ANNUAL MEETING LOUISIANA PHARMACEUTICAL ASSOCIATION.

The Louisiana Pharmaceutical Association held its fourth annual meeting at New Orleans beginning April 21. The session took place in one of the rooms of the Medical College building, on Common street. President A. K. Finlay occupied the chair, and Mr. L. F. Chalin was secretary.

President Alex. K. Finlay, in his address, dwelt upon the necessity of having a pharmacy law passed by the Legislature. Previous failure should not be allowed to discourage the members, but a liberal appropriation made to enable the Legislative Committee to make another attempt at the coming session of the Legislature. He suggested the combination of the State with the local society, for the purpose of establishing an independent school of pharmacy in New Orleans. Mr. Finlay approved the project for a National Formulary, which would resist the inroads of proprietary medicines and do away with the necessity for druggists to carry large extra stocks. He also called attention to the burden of taxation imposed in the form of the internal revenue liquor license. A more grievous burden is the imposition of an alcohol tax, which, in view of the financial condition of the country, is certainly excessive. When it is considered how largely alcohol enters into the composition of therapeutic agents now in vogue, it looks as if the tax falls directly on the sick. United effort should prevail upon Congress to effect at least a reduction of this tax to a reasonable figure. It is unfortunate, he said, that Louisiana has been so meagerly represented at the American Pharmaceutical Association. At the last session Texas, Arkansas, Mississippi, Alabama, Florida and South Carolina were not represented at all, and Louisiana had one delegate present. Louisiana should be more largely represented in the future. In conclusion, he paid a tribute to the late St. Cyr Fourcade.

Recording Secretary L. F. Chalin reported that there are now 134 members on the roll.

Mrs. E. Rudolf, the popular corresponding secretary, reported in detail the correspondence during the year. She called the attention of the association to a communication from Mr. E. A. Sayre, president of the National Retail Druggists' Association, alluding to a plan for the reorganization of that body. The indorsement of the State associations is required, and all of these that have met so far have given their indorsement. She requested the Louisiana Association to follow.

The Executive Committee reported the expenditures for the year to have been $113.55. The committee deplored the lack of interest. The remedy naturally suggests itself to establish an attractive place of meeting, to which members will pay frequent visits. With the money at present in the treasury a library and reading-room can be opened, and the place supported out of the annual income. Treasurer Lavigne reported a balance on hand of $555.75. The election of officers resulted as follows:

President, O. Robin; First Vice-President, C. L. Keppler; Second Vice-President, F. T. Royer; Recording Secretary, L. F. Chalin; Corresponding Secretary, Mrs. E. Rudolf; Treasurer, J. B. Lavigne; Executive Committee, J. Johnson, J. T. Thibodeaux, A. K. Finlay, F. C. Godbold, R. N. Girling.

The new officers were duly installed, and made remarks appropriate to the occasion.

A number of interesting communications were read. Mr. Charles Mohr, of Mobile, elected an honorary member, acknowledged the compliment by hoping that the associ-

ation would continue in its prosperity and its exercise of every influence toward elevating the profession in Louisiana and her sister States. Alonzo Robbins, of Philadelphia, also elected an honorary member, writes: "It is getting to be very apparent that the elevation of the legal status of pharmacy and the removal of the difficulties under which their trade interests suffer, as well as the advancement of scientific pharmacy, can best be promoted by the operations of the State pharmaceutical associations. Therefore, I am glad to observe evidence of the continued prosperity of the Louisiana Association."

Messrs. Alex. K. Finlay, C. L. Keppler, J. T. Thibodeaux, committee, reported a consultation with the medical faculty of the Tulane University on the subject of the creation of an additional chair—that of practical pharmacy. The faculty deemed compliance impossible, owing to the lack of a fund for that purpose.

The COMMITTEE ON TRADE INTERESTS reported that trade in New Orleans has shown no improvement during last year. We note an increase in the sale of patent medicines, whereby general profits are curtailed to a large extent—perhaps fully 20 per cent. Owing, probably, to the continued healthy condition of our city, physicians' prescriptions have shown a decrease. Another reason therefor is, perhaps, the growing number of benevolent and other associations, through which a considerable amount of prescriptions are diverted from natural channels in favor of the few. Amongst prescriptions there is a marked increase for preparations from large manufacturing establishments, thoroughly advertised among our physicians by means of pamphlets or by personal calls of their agents. There is little doubt that this is due, in a large measure, to the practice among too many of our brethren of not strictly adhering to the official formulas of the U. S. P., whereby the confidence of physicians in the uniformity of our preparations is somewhat impaired. We note a considerable falling off in the sale of sundries and fancy goods. The practice by grocers of extending their sales beyond their proper sphere is still continued, and not only patent medicines, but also officinal preparations and medicines are sold by them.

The Committee on Queries reported answers to queries and offered additional queries for acceptance.

On motion of Mr. Levy, a committee of five was appointed to carry out the suggestion of ex-President Finlay's address. The chair appointed A. K. Finlay, A. Levy, M. T. Breslin, Dr. W. Carson and F. C. Godbold.

The Board of Pharmacy and College of Pharmacy matters were discussed at length, Messrs. Keppler, Breslin, Finlay, Johnson and others joining in the discussion.

Out of the discussion grew a motion by Mr. Breslin that the association defray the expenses of the Legislation Committee at Baton Rouge.

President Robin appointed the following committees:

TRADE INTERESTS—M. T. Breslin, F. C. Godbold, A. K. Finlay, A. Griffo. PHARMACY AND QUERIES—J. Johnson, R. Tuma, Jos. Schaeffer. ADULTERATION AND DETERIORATION OF DRUGS—F. Lascar, F. T. Royer, C. L. Keppler. LEGISLATION—A. K Finlay, J. T. Thibodeaux, F. M. Brooks, of Baton Rouge. EXHIBITS—Mrs. E. Rudolf, Ben Lewis, L. Lyons, A. Levy, B. Lavigne.

The following delegates to the American Pharmaceutical Association were elected: J. Johnson, J. T. Thibodeaux, A. K. Finlay, I. L. Lyons, Wm. Bogel.

Mr. Finlay, in the unavoidable absence of Capt. I. L. Lyons, explained that the latter had been appointed chairman of a committee of the National Wholesale Druggists' Association to attend the State session. On behalf of Mr. Lyons he presented the following resolution:

1. Resolved, That the Louisiana State Pharmaceutical Association fully approves the action of the National Wholesale Druggists' Association in passing resolutions whose aim was to effect the discontinuance of the United States internal revenue liquor dealers' license as applied to druggists.

Also to effect the repeal or reduction of the excise duty on alcohol.

2. That the Committee on Legislation be instructed to confer with the Senators and Members of Congress from this State with the view of securing their co-operation in this matter.

3. That the secretary of this association be notified to forward a copy of the resolutions to Mr. M. M. Kline, President of the N. W. D Association. Adopted.

The Drugman, of Chattanooga, was elected an official organ. Mrs. Rudolf called attention to the communication asking the State Association to take part in reorganizing the National Retail Druggists' Association. Mr. Finlay, who is one of the vice-presidents of the association, explained that it would be supported, as heretofore, by individual members. In order to make the body more representative, however, it is proposed to make the annual session a convention of delegates from all State associations. Such a convention, it is thought, will exert more influence in furthering the two great objects of the association—the withdrawal of the internal revenue license upon liquor dealers, as applied to druggists, and the decrease of the tax upon alcohol.

The association indorsed the movement and delegated the representatives to the American Pharmaceutical Association to attend the Retail Druggists' convention.

The association then adjourned, to meet on the second Wednesday of April, 1887.

SCIENTIFIC FESTIVITY.

Of late years it has struck me, with constantly-increasing force, that those who have toiled for the advancement of science are in a fair way of being overwhelmed by the realization of their wishes. We see in the case of Parpeia, who opened the gates of the Roman citadel to the Sabines, and was crushed under the weight of the reward bestowed upon her. It has become impossible for any man to keep pace with the progress of the whole of any important branch of science. If he were to attempt to do so his mental faculties would be crushed by the multitudes of journals and of voluminous monographs which a too fertile press casts upon him. This was not the case in my young days. A diligent reader might then keep fairly informed of all that was going on, without robbing himself of leisure for original work, and without demoralizing his faculties by the accumulation of unassimilated information. It looks as if the scientific, like other, revolutions meant to devour its own children; as if the growth of science tended to overwhelm its votaries; as if the man of science of the future were condemned to diminish into a narrower and narrower specialist as time goes on.

I am happy to say that I do not think any such catastrophe a necessary consequence of the growth of science but I do think it is a tendency to be feared, and an evil to be most carefully provided against. The man who works away at one corner of nature, shutting his eyes to all the rest, diminishes his chances of seeing what is to be seen in that corner; for, as I need hardly remind my present hearers, that which the investigator perceives depends much more on that which lies behind his sense-organs than on the object in front of them.

It appears to me that the only defence against this tendency to the degeneration of scientific workers lies in the organization and extension of scientific education in such a manner as to secure breadth of culture without superficiality; and, on the other hand, depth and precision of knowledge without narrowness.—From Professor Huxley's Presidential Address to the Royal Society, Nov. 30, 1885.

The Fourteenth Annual Meeting of the American Public Health Association will be held at Toronto, Ont., Oct. 5 to 8, 1886. The Executive Committee have selected the following topics for consideration at said meeting: 1. The Disposal of the Refuse Matters of Cities and Towns: 2. The Condition of Stored Water-Supplies, and their Relation to the Public Health; 3. The Best Methods and the Apparatus Necessary for the Teaching of Hygiene in the Public Schools, as well as the Means for Securing Uniformity in such Instruction; 4. Recent Sanitary Experiences in Connection with the Exclusion and Suppression of Epidemic Disease: 5. The Sanitary Conditions and Necessities of Schoolhouses and School Life; 6. The Preventable Causes of Disease, Injury, and Death in American Manufactories and Workshops, and the best Means and Appliances for Preventing and Avoiding Them; 7. Plans for Dwelling-Houses.

(Editor The Western Druggist.)

It may be of interest to you to know that the Chicago Physicians' Supply Company is an established fact. Prof. R. Jackson is the president, and Foot & Swift, 1539 Chestnut street, Philadelphia, the supply agents, and I am under the impression that the scheme will also cut another hole in the income of the retail druggists.

F. EBERLEIN.

CHICAGO, April 29.

NOTES AND NEWS.

The "Transactions of the Medical Society of the State of Pennsylvania" at its Scranton meeting, held May 27 last, is a most formidable pamphlet of 514 pages, evincing a most vigorous organization and an able, progressive membership.

It will be reassuring to those of our readers who occasionally glance through English journals to hear that there is a fair probability that the expression "bye-laws," as presented with the superfluous vowel, will soon be a thing of the past.

Secretary Getty announces that the date of the annual meeting of the Minnesota Pharmaceutical Association has been postponed from June 9 to June 15-16, in order to have the benefit of the commercial exhibit of the State Medical Association, which meets at the same place on the latter date.

Shortly after midnight of April 28 a second attempt was made to rob a drugstore in this city, the night clerk being called up by two men, and while one engaged the clerk's attention, the other began to fill his pockets. The clerk with rare nerve produced a 48-calibre revolver, which caused the would-be burglars hastily to take their departure, securing about $10 worth of plunder.

The house of Seabury & Johnson, New York, appears to be absorbing the talent most conspicuous in the N. R. D. A. Mr. J. M. Peters, who as the editor of the Weekly Drug News was the recognized power behind the throne, some time since succeeded to the treasurership of the corporation, and now Mr. Edward A. Sayre resigns the presidency of the association to accept a position with the same house.

The familiar story of a bull in a china-shop has been revived under slightly modified conditions. From an English exchange we find a description of a visit of the bovine to a shop—not a china-shop, but an English chemist's shop. The havoc and destruction played by the bovine, as he browsed upon the prescription counter, while the chemist went flying through a rear window, may be better imagined than described.

A Wisconsin correspondent is again informed that an unregistered person in Wisconsin cannot without violating the State pharmacy law dispense prescriptions or compound drugs, medicines or poisons, "except under the supervision of a registered pharmacist." The law applies to physicians and their assistants the same as to other persons, except that every physician may compound his *own* prescriptions. The law is plain and specific upon this point, and we cannot believe a member of the Board of Pharmacy has construed it otherwise.

Science has just sustained a great loss by the death of Dr. Bouchardat, April 4, 1886, after a short illness. Dr. Bouchardat, the oldest member of the Faculty of Medicine of Paris, was born at Iste-sur-Serein (Tonne) in 1806. He was destined from the first to be a pharmacist, and came very early to Paris to pursue his studies. In 1833 he was graduated with honors. In 1834 he completed an hospital course at St. Anthony's Hospital, and was named chief pharmacist. He subsequently accepted the same position at the Hotel Dieu, where he remained till 1855, when he resigned to engage in scientific work. In 1838 he was a rival with Dumas for the chair of pharmacy and organic chemistry in the Paris Faculty of Medicine, and came out of the contest with increased scientific reputation, although Dumas was elected. In 1844 he founded the Repertoire de Pharmacie, and long remained its chief editor. In 1852 he obtained by concours the chair of organic chemistry in the Paris Faculty of Medicine. He was elected to the Academy of Medicine, and was made commander of the Legion of Honor. His numerous scientific works show that he possessed in eminent degree the audacity and conservatism which make up the true scientific mind. The most interesting of his monographs are those on milk, wines, portable waters, and chloroform.

Dr. H. D. Garrison, the genial professor of chemistry at the Chicago College of Pharmacy, lectured recently in Attfield Hall before the Alumni Association and their friends. The subject was "The Resurrection of the Dead." The Doctor is not a theologian, but nevertheless gave his lecture an unexpected turn by leaving humanity severely alone, and instead resurrecting in imagination the forms of extinct animal and vegetable life that once populated the earth. He gave an account of the succession of forms of animals and plants that have appeared on the earth from the earliest periods of geological history down to the present, illustrating his lecture with numerous magic lantern views. The lecture, as might have been expected, was very entertaining, and was well attended.

Messrs. Frederick Stearns & Co., of Detroit, do not appear to be greatly frightened at the suit instituted against them by the Brown Chemical Company, of Baltimore, the same concern which seeks to enjoin the retail druggists of the country from selling any "iron" preparations but their own. Messrs. Stearns & Co. state their case succinctly when they declare referring to the plaintiffs:

Whatever *legal* rights they have, have not been interfered with by us in the remotest manner.

We concede to them no *moral* rights whatever, and in every way possible shall we continue to combat their claims, expose their fallacy, supplant their goods with preparations of greater merit and cheaper cost, and in doing this we know we have the full sympathy of the retail drug trade and the medical profession.

We are preparing to bring this matter to the attention of the court, and from our investigations are convinced that the circular and notices published as advertisements are merely buncombe and one of the ways that the Brown Chemical Company adopts for obtaining cheaply a little notoriety.

Nearly all the druggists of Cedar Falls, Waterloo and La Porte City, Iowa, have been made defendants in a suit for failing to make affidavit to their monthly reports as required by the prohibition act. The section under which suit is brought reads as follows:

"SEC. 1537. No person having a permit to sell intoxicating liquors under this chapter, shall sell the same at a greater profit than 33 per cent. on the cost of the same including freights, and every person having such permit, shall make on the last Saturday of every month, a return in writing to the auditor of the county, showing the kind and quantity of the liquors purchased by him since the date of his last report, the price paid, and the amount of freights paid on the same; also the kind and quantity of the liquors sold by him since his last report, to whom sold, for what purpose, and what price; also the kind and quantity of liquors remaining on hand, which report shall be sworn to by the person having the same permit, and shall be kept by the auditor subject at all times to the inspection of the public."

To any intelligent person it is plain that the requirements of the section in all its details cannot possibly be complied with, and hence the druggists very properly refused to swear to their reports which were in other respects as prescribed by law. For failing to perform the impossible, these gentlemen are to be prosecuted. The attorneys bringing the suits threaten similar proceedings throughout

the State. As the informer receives one-half the blood-money, the scheme is probably purely a blackmailing one.

The New York Quinine and Chemical Works has been reorganized, and now includes Mr. Henry W. Fuller, formerly of Messrs. Fuller & Fuller, wholesale druggists, Chicago, and Mr. George S. Davis, of Messrs. Parke, Davis & Co., Detroit. These gentlemen bring to the corporation a degree of energy and sagacity which will make itself felt throughout the trade. The Oil, Paint and Drug Reporter, in announcing the reorganization, incidentally pays Mr. Fuller a compliment which his many friends in the West will appreciate, in the following personal sketch:

Mr. Fuller has been identified with the drug business since 1845, beginning in a retail way, but soon changing to the wholesale trade. He studied chemistry with Dr. Parker Cleveland, the distinguished professor of chemistry in Bowdoin College, Brunswick, Me.; was in the employ of the old firm of Schieffelin Bros. & Co. for some time; is a member of the American Pharmaceutical Association; one of the oldest members of the Chicago College of Pharmacy; also a member of the Chicago Academy of Sciences, and the Chicago Astronomical Society. For many years he was president of the State Microscopical Society of Illinois; is a member of the American Society of Microscopists, besides being a Fellow of the Royal Microscopical Society of London. He now comes to New York City to locate permanently, and take the active directorship of affairs.

Mr. Fuller was elected president of the Chicago College of Pharmacy at its last annual meeting, and, we believe, still enjoys the distinction of the office.

WYOMING PHARMACY ACT.

Following is the text of the Wyoming pharmacy act—the first law of the kind, we believe, ever enacted by a Territory:

AN ACT TO REGULATE THE PRACTICE OF PHARMACY AND THE SALE OF MEDICINES AND POISONS.—Be it enacted by the Council and House of Representatives of the Territory of Wyoming:

SECTION 1. That from and after the passage of this act it shall be unlawful for any person, not a registered pharmacist within the meaning of this act, to conduct any pharmacy, drugstore, apothecary shop or store for the purpose of retailing, compounding or dispensing medicines or poisons, except as hereinafter provided.

SEC. 2. That it shall be unlawful for the proprietor of any store or pharmacy to allow any person except a registered pharmacist to compound or dispense the prescriptions of physicians, or to retail or dispense poisons, except as an aid to and under the supervision of a registered pharmacist.

SEC. 3. The Governor, with the advice and consent of the Territorial Council, shall appoint three persons from among the registered pharmacists of the Territory, representing the different portions of the Territory as nearly as practicable, all of whom shall have been residents of the Territory for two years, and of at least five years' practical experience in their profession, who shall be known and styled as Commissioners of Pharmacy for the Territory of Wyoming. Each commissioner so appointed shall hold his office for two years, and until a successor be appointed and qualified. If a vacancy occur in said commission, another shall be appointed, as aforesaid, to fill the unexpired term thereof. Said commissioners shall have power to make by-laws and all necessary regulations, and prescribe a course of study for apprentices or students who may be desirous of entering upon the study of the profession of pharmacy, for the proper fulfillment of their duties under this act, without expense to the Territory.

SEC. 4. The Commissioners of Pharmacy shall register in a suitable book, a duplicate of which is to be kept in the office of the Secretary of the Territory, the names and places of residence of all persons to whom they issue certificates and the dates thereof. It shall be the duty of said Commissioners of Pharmacy to register, without examination, as registered pharmacists, all pharmacists and druggists who are engaged in business in the Territory of Wyoming at the passage of this act, if they have had three years' experience as owners or principals of stores or pharmacies for selling at retail, compounding or dispensing drugs, medicines or chemicals for medicinal use, or for compounding and dispensing physicians' prescriptions; and all assistant pharmacists, eighteen years of age, engaged in said stores or pharmacies in the Territory of Wyoming at the passage of this act, and who may have been engaged as such in some store or pharmacy where physicians' prescriptions were compounded and dispensed for not less than three years prior to the passage of this act: *Provided, however*, they shall pass a satisfactory examination as provided for candidates by the Commissioners of Pharmacy of the Territory, and that in case of failure or neglect on the part of any such person or persons to apply for registration within sixty days after they shall have been notified, they shall undergo an examination such as is provided for in section 5 of this act.

SEC. 5. The said Commissioners of Pharmacy shall, upon application, and at such time and place and in such manner as they may determine, examine, either by written examination or orally, each and every person who shall desire to conduct the business of selling at retail, compounding or dispensing drugs, medicines, or chemicals for medicinal use, or compounding and dispensing physicians' prescriptions as pharmacists, and if a majority of said commissioners shall be satisfied that said person is competent and fully qualified to conduct said business of compounding or dispensing drugs, medicines or chemicals for medicinal use, or to compound and dispense physicians' prescriptions, they shall enter the name of such person as a registered pharmacist in the book provided for in section 4 of this act; and every graduate in pharmacy having a diploma from an incorporated college or school of pharmacy that requires a practical experience in pharmacy of not less than four years before granting a diploma, shall be entitled to have his or her name entered as a registered pharmacist by said commissioners without examination.

SEC. 6. The Commissioners of Pharmacy shall be entitled to demand and receive from each person whom they register and furnish a certificate as a registered pharmacist without examination, the sum of $3, and from each and every person whom they examine the sum of $10, which shall be in full for all services. And in case the examination shall prove defective and unsatisfactory, and his name not be registered, he shall be permitted to present himself for re-examination within any period not exceeding twelve months next thereafter, and no charge shall be made for such re-examination.

SEC. 7. Every registered pharmacist shall be held responsible for the quality of all drugs, chemicals and medicines he may sell or dispense, with the exception of those sold in the original packages of the manufacturer and those known as "patent medicines;" and should he knowingly, intentionally and fraudulently adulterate, or cause to be adulterated, such drugs, chemicals or medical preparations, he shall be deemed guilty of a misdemeanor, and, upon conviction thereof, be liable to a penalty not exceeding $100, and, in addition thereto, his name be stricken from the register.

SEC. 8. It shall be unlawful for any person to sell, barter or give away any poisons without distinctly labeling the bottle, box or package in which it is contained with the name of the article, the word "Poison" and a vignette representing a skull and cross-bones, and the name and place of business of the seller. The purchaser must be made aware of the poisonous nature of the article, and shall represent that it is to be used for a legitimate purpose. The seller shall also enter in a book kept for that purpose the date of sale, name of purchaser, name and quality of the poison, and for what purpose it was the chased.

This provision shall not apply to the dispensing of poisons in usual doses, nor to physicians' prescriptions.

SEC. 9. Any person not a registered pharmacist, as provided for in this act, who shall conduct a store, pharmacy or place for retailing, compounding or dispensing drugs, medicines or chemicals for medicinal use, or for compounding and dispensing physicians' prescriptions, or shall take use or exhibit the title of registered pharmacist, shall be deemed guilty of a misdemeanor, and, upon conviction thereof, shall be liable to a penalty of not less than $25, nor more than $100.

SEC. 10. This act shall not apply to physicians putting up their own prescriptions nor to the sale of proprietary medicines.

SEC. 11. All acts and parts of acts in conflict with this act are hereby repealed.

SEC. 12. This act shall take effect and be in force from and after its passage.

QUACKERY.

Several prescription gems have been received from G. Felker, Marshfield, Iowa, and J. Brynildsen, Graceville, Minn. They are of the genuine "Bible House" stamp, such as have been noticed in these columns at different times. We publish them now for the express purpose of enabling pharmacists to call the attention of such of their customers who may be victims to these frauds, to their true character. When any of these specimens are presented to be filled subscribers may apologize for their "ignorance" by showing their patrons this journal, where they are stamped as frauds:

No. I.

℞

Pulv. Arabian sea grass	℥ii
" Kanke root	ʒi
" Bugle weed	℥i
Chlorate quinia	ʒi
Mag. sulph	℥i
Glycerin	ʒii
Aqua pura q. s. ft	ʒxvi

M.

No. II.

INTERNAL REMEDY.

℞

Ext. Arabian Calla root	℥ii
Comp. Tinct. Arabian red flowers	ʒi
Hypophosphite quinia	ʒi
Ext. Leptandra	℥i
Ferr-Citr. Calcium	ʒi
Risulph. quinia	ʒiii
Phospho-Salicylate	ʒi
Glycerin	ʒi
Verim ferri q. s. ft	ʒxx

M.

THE WESTERN DRUGGIST.

VOL. VIII. No. 6. JUNE 15, 1886. Subscription Price, $1.00 per annum. G. P. ENGELHARD & CO., Chicago.

JEAN BAPTISTE ANDRE DUMAS.

BY FREDERICK B. POWER.

The oft-quoted line of Pope, "The noblest study of mankind is man," has certainly lost none of its truth with the progress of time, and indeed, now comprehends a deeper meaning than it did a century ago; for it includes not only ethnology and political and social science, but the whole broad field of investigation of human progress, which, especially during the past few decades, has everywhere been so strikingly manifested.

But a little more than two years have passed since the entire scientific world, and especially the French nation, was called upon to mourn the loss of one who for more than half a century had participated in the most brilliant achievements of chemical and physical science, and to whom the world is indebted for the establishment of a series of fundamental truths which have exerted a most potent influence upon the subsequent marvelous development of exact scientific research.

In the relatively brief space devoted to the subject of this sketch the writer can neither hope nor presume to present an adequate representation of a life so eventful, of services so eminent in their bearings upon science and the great ends of humanity, and a character exalted by such noble traits, but may, nevertheless, venture to depict some of the incidents of a career which so grandly merits emulation, and which is capable of affording the highest inspiration that can be drawn from hnman attainments when accompanied and incited by the noblest purposes of life.

For the materials of this sketch the writer has drawn chiefly from the extended and most interesting memoir contributed a few years since to Nature by the illustrious chemist and scholar, Professor A. W. Hofmann, of the University of Berlin, who for many years had enjoyed the intimate acquaintance and personal friendship of the French *savant*, one which served as the basis of the biographical sketch which he was so soon thereafter called upon to present to the German Chemical Society as the last tribute of friendship, while a few additional items of interest have also been gleaned from the Paris Journal de Pharm. et de Chimie and other sources.

Jean Baptiste André Dumas was born at Alois, in the department of the Gard, France, July 14, 1800. His father came of an ancient family, which at the revocation of the Edict of Nantes, had separated into two branches. Of these the Protestant branch had emigrated, while the Catholic, to which he belonged, remained in France. He was an accomplished man, fond of literature and the arts, possessed considerable skill in drawing, and even practiced painting very successfully.

The little town of Alois was almost unknown at the beginning of this century, but nevertheless, young Dumas found there everything conducive to the expansion of a youthful intellect as well as to the development of a well-built frame. A college, which had then no lack of pupils, fulfilled the requirements of the boy's early education, initiating him more especially in the study of Latin, which the classical traditions of the neighborhood and the numerous monuments of Roman conquest in Southern France were so peculiarly adapted to foster. By its unique situation, moreover, the town of Alois afforded opportunities of observing nature and the processes of adapting her products to the use of man, which proved not less attractive to the future academician than the many surrounding objects of classical and historical interest. The existence of coal fields in the neighborhood, the glass works at the very gates of the town, the brick yards, tile works and manufactories of coarse earthenware in the vicinity, as well as the lime kilns and the mines of iron pyrites not far distant which supplied the materials for manufacturing green vitriol, together with the mines of antimony and lead and iron ores, all contributed to develop in an interesting and instructive manner a natural spirit of observation. The luxuriant and varied vegetation of that Southern clime, which by a few short excursions also admitted of comparison with a maritime and Alpine flora, would also serve to explain how the Abbé de Sauvages, a friend of Linneus, was able to take a foremost place among the botanists of his time without ever leaving this narrow section of country.

It would be difficult to imagine a happier complement to a classical education than the lessons taught at every step in this delightful country. These lessons were not lost upon Dumas, who at fourteen years of age, in addition to his rare attainments in classical literature, had already acquired a rudimentary knowledge of the several natural sciences. Having made up his mind to enter the navy, he might at once have presented himself for examination had it not been for an insufficient acquaintance with some branches of mathematics, which, however, was soon acquired through private instruction, although somewhat retarding his original project. While Dumas was thus preparing for his naval examination the political events of 1814–15, and the troubles which ensued, obliged his family to abandon this project and to select a career for the youth which would entail less sacrifice. Dumas accordingly entered as an apprentice at an apothecary's in Alois. This position, in which he pursued his first practical studies, did not

afford much opportunity for scientific progress, and, being compelled to witness the bloody scenes associated with the political and religious divisions of the country at that time, he became inspired with a strong desire to leave his native town, to which his parents deemed it best to accede.

Thus, in 1816, Dumas started for Geneva, traveling the entire distance on foot. At Geneva he found everything to expand his ideas, to stimulate his emulation, and thus to prepare him for his future career. There were lectures on botany by De Candolle, on physics by Pictet, and on chemistry by Gaspard de la Rive. He had, besides, the superintendence of a tolerably large laboratory belonging to the pharmacy of Le Royer, and formerly used for the courses of applied chemistry given by Tingry.

The pharmaceutical students, who frequently united in botanical excursions during the summer, started the idea of winter meetings for scientific studies. Seeing that Dumas had a laboratory at his disposal, it was suggested that he should give them a course in experimental chemistry. This was his *debut* in the professional career. It was by no means an easy task, for although the laboratory was well provided for all pharmaceutical operations, and even for some chemical experiments of the old school, it possessed none of the modest appliances which a lecturer even at that time required. Most keenly felt was the utter absence of any of the implements necessary for the preparation and collection of gases. But a supply was rapidly improvised. To obtain gas jars, lamp chimneys were closed with watch glasses, cemented on with wax. An old bronze syringe was turned into an air pump, and barometer tubes bent over a flame, completed the stock of apparatus. As the ambition of the young professor grew he began to long for a chemical balance. This wish was also satisfied, and with the aid of some workmen in a watchmaker's shop an instrument was constructed which enabled him to begin his analytical researches.

Meanwhile, the friendly welcome which had been extended to him on his arrival at Geneva by his relative, Mr. Bérard, a former associate of Chaptal, distinguished in his time as a chemist and a statesman, began to bear its fruit. Bérard had introduced him to Theodore de Saussure and to De Candolle, and each in his way began to take a warm and lasting interest in him; they encouraged his studies and assisted him to the best of their powers in his pursuits. It was most likely at the instigation of his new friends that Dumas, reviving his early naval predilections, began seriously to think of and prepare for an exploring expedition to some distant part of the world. A monograph on the Gentianaceæ, chiefly written for the purpose of becoming familiar with the language and the ideas of botanical science, was a fruit of these aspirations.

But this was not to be his mission. Biot's great treatise, which for half a century was to remain the standard textbook on physics, had just appeared, and Dumas had found, more especially in the first volume, plenty of subjects directing his attention to the art of experimenting, of making observations, of consulting nature, and of discovering the laws of her phenomena. The Annales de Chimie offered him, moreover, splendid models in the papers of Berzelius, Davy, Gay-Lussac and Thenard. At the same time he studied with indefatigable zeal the works of Lavoisier, and the Statique Chimique of Berthollet.

He was thus led to work and gradually to make two little discoveries. If neither of them proved to be a great success, they served, at all events, to bring the young experimentalist into friendly relation with one of the leading men of science at Geneva. Professor Hofmann states that he heard from Dumas himself the singular fate of these early discoveries. When analyzing various sulphates and other salts of commerce, he had observed that the water they contained was present in definite equivalents. He had not found this recorded anywhere, and had therefore taken great pains to establish the accuracy of his observations. When the investigation was finished he went one morning early to De la Rive, and timidly submitted to him the manuscript embodying the results of his inquiry. While glancing over it De la Rive could not conceal his surprise. When he had come to the end he said to the young student, "Is it you, my boy, who has made these experiments?" "Certainly." "And they have taken you a good deal of time to perform?" "Of course they have." "Then I must tell you that you have had the good fortune to meet Berzelius in the same field of research. He has preceded you, but he is older than you, and so you ought not to bear him ill-will on this account." Dumas, not a little embarrassed, was unable to utter a single word. It was, in fact, his first interview with De la Rive, whose lectures he had attended, but whom he had never personally accosted. But his perplexity was not to last long. With the utmost good nature De la Rive put an end to his gloomy reflections by taking his arm and saying, "Come along and breakfast with me." Before long the conversation had become animated and cheerful. The acquaintance was made, and the kindly feeling of his teacher won by Dumas at this breakfast never subsequently failed him.

The second discovery of the young philosopher must also not remain unnoticed. He thought that, knowing the atomic weight of a solid or liquid body, and likewise its density, there would be no difficulty in arriving at the volume of the solid or liquid atom. He was then led to determine, with great accuracy, the density of a number of simple and compound substances, the purity of which could be relied upon. Having worked for some time he drew up a paper upon the subject, which in due time was presented to De la Rive. But his friend, though admitting the novelty of the point of view from which the question was treated, did not encourage him to pursue this line of research. Young Dumas was rather disheartened when he left his patron.

"The first time," he said to himself, "my experiments were good but they were not new; this time they are new but they do not appear to be good. I shall have to try again."

This inquiry, subsequently continued with Le Royer's son, was nevertheless communicated to the Physical Society of Geneva, and at a later period published in the Journal de Physique in Paris. What remains of it is the present method of taking the density of solid bodies, to which but little has been added, and also the principle on which all subsequent inquiries on the atomic and equivalent volumes of bodies is based.

Dumas was then eighteen years of age. It was about that time that he had the good fortune to make himself useful to one of the principal physicians of the town, a circumstance which contributed not a little to advance him in the circles in which he had hitherto lived. One morning Dr. Coindet came in hastily to LeRoyer's.

"You occupy yourself with chemistry?" he said to Dumas.

"To some extent," was the answer.

"Then you could tell me whether iodine is present in sponges, and more especially in carbonized sponges?"

"I will examine them for you."

Having after some days received an affirmative answer, Dr. Coindet no longer hesitated to consider iodine a specific against goitre. Dumas was then asked to give his attention to the subject, and to point out the preparations in which iodine might be most conveniently administered. He suggested tincture of iodine, potassium iodide, and iodized potassium iodide. Soon afterward these new remedies were mentioned in a German journal published at Zurich, and it is in this connection that the name of Dumas is first met with in scientific literature. It need scarcely be mentioned that at that period, so soon after the discovery of iodine by Courtois, none of the iodides were known to the trade, iodine itself being the only commercial article. The discovery of Dr. Coindet produced a great sensation all over the world, and for many years the manufacture of iodine preparations for medical purposes proved a source of wealth and reputation to the pharmacy of LeRoyer.

It was at that time that Dr. J. L. Prévost, after an absence of several years, returned to Geneva. He had been residing for a considerable time in Edinburgh and Dublin, devoting himself to comprehensive studies in the several departments of medicine. He had been more particularly engaged in the examination of the physiological effects of digitalis, and was naturally anxious to obtain the active principle of the plant free from all foreign matter accompanying it. He invited Dumas to join him in this inquiry. The problem to be solved consisted in successively removing all that was inert, so as to concentrate the active constituent, which would ultimately remain in a state of purity. The chemical properties of this principle being unknown, the only means of appreciating the concentration was to observe the effect of the concentrated substance upon animals. This slow and irksome process of elimination did not lead to any result; and it is well known that our knowledge of the more exact chemical characters of digitaline is of comparatively very recent date. But, however unsuccessful, these joint labors gave rise to a far more fruitful collaboration in many departments of physiological research.

The joint labors with Prévost, which are too extended to be described here, did not prevent Dumas from engaging simultaneously in independent investigations, which were chiefly of a physical nature, such as the expansion of liquids, etc.

At about this time, *i. e.*, in 1822, Dumas might have settled at Geneva, and many circumstances led him to think seriously of doing so. An incident, however, which happened at that time induced him within a few days to change his mind. He made the acquaintance of a man, amongst whose varied gifts the fascinating sway he exercised over youthful minds was not the least. The story is related in the following interesting manner by Professor Hofmann, who had heard it directly from Dumas himself.

"One day," said Dumas, "when I was in my study completing some drawings at the microscope, and, it must be added, rather negligently attired, in order to enable me to move more freely, some one mounted the stairs, stopped on my landing, and gently knocked at the door. 'Come in,' said I, without looking up from my work. On turning around I was surprised to find myself face to face with a gentleman, in a bright blue coat with metal buttons, a white waistcoat, nankeen breeches and

JEAN BAPTISTE ANDRE DUMAS.

top boots. This costume, which might have been the fashion under the Directory of the first French republic, was then quite out of date. The wearer of it, his head somewhat bent, his eyes deep set, but keen, advanced with a pleasant smile, saying, 'Monsieur Dumas?' 'The same, sir; but excuse me.' 'Don't disturb yourself. I am M. de Humboldt, and did not wish to pass through Geneva without having had the pleasure of seeing you.' Throwing on my coat I hastily reiterated my apologies. I had only one chair. My visitor was pleased to accept it, while I resumed my elevated perch on the drawing stool. Baron Humboldt had read the papers published by M. Prévost and myself on blood, which had just appeared in the Bibliothéque Universelle, and was anxious to see the preparations I had by me. His wish was soon gratified. 'I am going to the Congress at Verona,' he said, 'and I intend to spend some days at Geneva, to see old friends and to make new ones, and more especially to become acquainted with young people who are beginning their career. Will you act as my cicerone? I warn you, however, that my rambles begin early and end late. Now, could you be at my disposal, say, from six in the morning until midnight?'

"This proposal, which was of course accepted with alacrity, proved to me a source of unexpected

pleasure. Baron Humboldt was fond of talking; he passed from one subject to another without stopping. He obviously liked being listened to, and there was no fear of his being interrupted by a young man who for the first time had heard Laplace, Berthollet, Gay-Lussac, Arago, Thénard, Cuvier, and many other of the Parisian celebrities, spoken of so familiarly. I listened with a strange delight; a new horizon began to dawn upon me. Save the time devoted to some visits I was allowed to remain the whole day with Humboldt, who darted from point to point over the vast range of his recollections, while I endeavored to keep pace with the uninterrupted flow of his narrative. Sometimes the mountain scenery would remind him of the Cordilleras, though it must be confessed he did not think much even of Mont Blanc. Sometimes he turned to science, and then astronomy and physics, chemistry and the natural history branches would, in rapid succession, come in for their share in the dialogue, or rather monologue, which, spoken in a low, somewhat monotonous tone, would have scarcely appeared impressive, had it not been for some waggish pleasantry which now and then escaped, as it were, involuntarily. But, at any rate, if his voice failed to be effective, the glance of his eye was sufficient to rivet his hearer's attention. At the end of a few days Baron Humboldt left Geneva. After his departure the town seemed empty to me. I felt as if spell-bound. The memorable hours I had spent with that irresistible enchanter had opened a new world to my mind. I had been more especially impressed with what he had told me of Parisian life, of the happy collaboration of men of science, and of the unlimited facilities which the French capital offered to young men wishing to devote themselves to scientific pursuits. I began to think Paris was the only place where, under the auspices of the leaders of chemical and physical science, with whom I had no doubt, I should soon become acquainted, I might hope to find the advice and assistance which would enable me to carry out the labors over which I had been pondering for some time. My mind was soon made up—'I must go to Paris.'"

The interest with which Dumas recounted this incident, which brought his stay in Geneva to a somewhat sudden termination, leaves no doubt as to the deep impression which the short intercourse with Alexander von Humboldt had made upon his mind. We have here, indeed, one more illustration of the peculiar predilection of the German *savant* for youthful inquirers, of the sagacity with which he discovered rising talent, and of the irresistible fascination which no one was able to withstand. It is well known what a powerful patron he proved to be to Liebig, who has left us a charming account of his first acquaintance with the famous traveler; and it is certainly worthy of note that two inquirers whose labors subsequently carried them to the head of chemical science, should each have been befriended on the very threshold of his career by the same master mind, so that in later years they never ceased to acknowledge in affectionate terms the debt of gratitude which they owed to Alexander von Humboldt.

Dumas' removal to Paris, which took place in 1823, brought the physiological labor in which he had been engaged with Prévost to a conclusion, and he now devoted himself more and more to the investigation of the purely chemical questions which he had been cogitating, even at Geneva.

If a legitimate desire to become acquainted with the leading men of science of that day was one of the principal motives in determining Dumas to leave Geneva, his wishes were gratified far beyond his most sanguine expectations. Nothing could have surpassed the kindness with which he was received by the very men to whom he had hitherto been looking up with mingled feelings of reverence and awe, which was especially evidenced in the cordial reception given him by Laplace upon the occasion of his first entrance in the Academy of Sciences, and which resulted in a regular intercourse of a most friendly character. It was obviously in the society of Laplace, who never ceased to deplore the untimely and cruel death of his noble fellow-worker, that Dumas was first impressed with those feelings of affectionate reverence, with which he ever since regarded the name of Lavoisier.

The place of Répétiteur de Chimie to Thenard's course of lectures in the Ecole Polytechnique having become vacant at that time, Arago proposed Dumas for the office, who was elected by the council of the school before he had become aware that he was a candidate. There was also at that period in Paris an institution for evening lectures on literature and science, which was originally called the Lyceum, but is better known by its later name of Athenæum. The chair of chemistry at this institution, hitherto occupied by Robiquet, had become vacant by the resignation of that chemist, and Ampére succeeded in procuring the appointment for Dumas, without having previously spoken to him on the subject. From this moment his full energy was directed toward the solution of chemical problems.

Those who had known the chemical laboratories of the previous period established in a large way, and permitting the execution of the most complicated operations on an almost manufacturing scale, would have scarcely realized what miserable corners, denominated by the dignified name of laboratory, the chemical Répétiteur (Assistant) at the Ecole Polytechnique had to put up with when Dumas came into office. The famous laboratories which had witnessed the grand experiments on potassium and sodium, and the researches published in two volumes of Gay-Lussac and Thenard, were no longer in existence. The great battery had wandered into the lumber room. All the Répétiteur had at his disposal was a sort of kitchen for the preparation of the lectures, and a little room without a fire-place furnished with cupboards for the specimens. Indeed, Dumas was sorely disappointed on taking possession of his magnificent apartment. There was neither balance nor barometer, no thermometers, no graduated tubes and vessels, in fact no instrument of precision for research. The whole stock of the laboratory consisted of the apparatus and preparations used for the manipulations and demonstrations in a course of general chemistry.

At that period it was by no means an easy task to furnish a laboratory with the means of working, and more especially to procure the instruments of precision required for delicate experiments. Philosophical instruments were scarcely in existence, and, with the exception of one man, there were no

makers who were not persuaded that apparatus was for show and not for use. There was, indeed, no help for Dumas but to trust again to those inventive faculties which had carried him through similar difficulties at Geneva. Still, several years elapsed before he succeeded in arranging his laboratory on such a scale as to be prepared for actual work.

But it was not only the want of a well-appointed laboratory which prevented him from engaging much in scientific researches during the first years of his stay in Paris. His lectures at the Athenæum required a great deal of preparation; he was, moreover, in his capacity as assistant to Thenard's course at the Ecole Polytechnique, assiduously practicing the art of experimenting in public, in which he soon attained the highest degree of proficiency. At the same time he founded (in 1824), with his friends Audouin and Brongniart, the Annales des Sciences Naturelles and also began to collect the materials necessary for the publication of his grand "Traitè de Chimie appliquée aux Arts," the first volume of which appeared in 1828.

If this period was for Dumas one of incessant labor, and often of the most strenuous efforts, it also carried him to the sunny height of life by realizing the most ardent of his aspirations. He succeeded in gaining the affections of the lady Mdlle. Brongniart, the eldest daughter of the illustrious geologist, to whom he was married Feb. 18, 1826, and who for more than half a century was his faithful companion and counselor, while through her noble and generous hospitality she contributed none the less to render the house of Dumas a center of attraction for society in Paris.

(To be continued.)

(Communicated.)

THE ADVANCE OF PHARMACY DURING THE YEAR.*

BY C. P. PENGRA.

I regard it as a high compliment to pharmacy and this association, that in the midst of your greatest enthusiasm, at a time when your ambition for mutual improvement, thorough understanding and additional preparation for the future welfare of pharmacy is at its highest ebb, you are willing to pause a moment and in response to the present query reflect on the progress of the past year, are willing to have the past held up in full view of a criticising world, that it may judge for itself whether or no the mists of one hundred years ago have not nearly cleared up, revealing thousands of willing and loving hands that have been plunged into the shroud of mystery and are bringing forth not an ordinary child, but a well developed, invaluable, decidedly vigorous profession of pharmacy.

The reputation of pharmacy is based upon its true merits and, as all reputations should be, upon what it has accomplished, and although her laurels are always hard earned and contested step by step, yet we may look with pride to the past year and congratulate her on an advancement second to no other profession. As we glance about the scientific horizon we find that pharmacy is fast rising among those professions that possess true merit and value, and is rapidly acquiring that independence and distinctiveness so necessary to public recognition.

During the year laws have been passed in Kansas, Michigan, Minnesota and Massachusetts which, added to Connecticut, Delaware, Georgia, Illinois, Iowa, Rhode Island, West Virginia, Wisconsin, Kentucky, Missouri, North Carolina, South Carolina, New Jersey, Maine, New York, New Hampshire and Ohio, giving twenty-one States, and we are almost daily expecting similar returns from Pennsylvania, Indiana and Alabama, in which we have proof that the people are fast becoming convinced of her rightful position and the inestimable value to them of confining its practice to thoroughly competent as well as responsible, earnest and reliable men. * * * * * *

In pharmacy there are mines of undeveloped resources, and it is in the development of these that the true power lies. Once open them up and expose their intrinsic value to the world, and she will have no need for politics.

Successful pharmacists are readers, and it would be a waste of time were I to indulge in a lengthy resumé of what you already regard as hackneyed; besides, our time does not permit of long, tedious detail, such as would be necessary in doing any justice to the multitude of minor mechanical appliances and chemical improvements. But in reality 'tis these very same little points that in the aggregate make up the record of advancement, and a brief reference must be necessary.

Cocaine, although born four months prior to 1885, has in reality identified itself as one of the innovations of the past year. We must yield the honor of discovery as also its wonderful therapeutical application to the doctors, but it is nevertheless a direct and grand addition to the pharmaceutical armamentary. It is second to no other medicine in its established reputation and prospects. Already it has been proven that its solutions are the best preparations, and we have also learned that these must be protected from the insidious destruction of a cryptogamic plant. In fact, a careless observer might think that *all* attention has been directed to this one drug, so frequent are its praises. But not so; others in the host of indefatigable investigators have found that apomorphine rigolene, theine and a derivative from pomegranate bark are important rivals, and thus it would seem that even medicines vie with each other in the competition of the world.

The shrine of Somnus has been bravely attacked in a determined effort to dethrone chloral, potassium bromide and other established narcotics. Paraldehyde, hopeine, hypnone and urethan have afforded the best grounds for argument, but the best conclusions that we can now form is that, although very valuable, they in no way exceed the value of the present incumbents. But as such additions are of great value in opening up new lines of thought, and giving a greater range to both medicine and pharmacy, they are welcome to all the honors they may gain.

Among the anæsthetics, ether has been found to

*Paper read before the Boston meeting of the Massachusetts Pharmaceutical Association.

produce and absorb ozone, which is very irritating if kept for a long time in the sunlight, and must be kept in the dark.

Chloroform has been successfully manufactured from the distillate of wood. A preparation of it called traumaticine is said to be a worthy rival of collodion. Bromide of ethyl has received very favorable notice, but as yet can only be regarded as a poor aspirant for the honors of chloroform, ether or nitrous oxide. Closely related to these comes pipmenthol, which can be made from our home product of mint, and will no doubt rapidly supplant the imported menthol.

Although it is claimed to require a secret method in its manufacture, yet to the inventive genius of the nineteenth century secrets are not very serious objections, and with the perfection of the opinion that many now hold, the pharmacist may soon be able to make his own.

In the line of antiseptics there have been numerous additions, and although we have Billroth and Hamilton, the representative surgeons of England and America, as authorities for the opinion that the great majority of them as now used are about as useful as pure water, still the chemists, pharmacists and doctors have been shoving them forward till no drugstore seems complete without a very liberal variety. The great effort seems to be to supplant carbolic acid. "aseptol" as possessing greater power and being less poisonous; "listerine," containing thymol and salicylic acid as basis, as being stronger and harmless; "hydronaphthol" as odorless, less irritating, less poisonous and stronger; "iodol" as a substitute for, with greater power, less odor and less intoxication than iodoform, and thus we might enumerate many more, and finally finish with the theory of Koch, which would have every pharmacist keep a stock of bacteria termo on hand as a specific antiseptic for his *bacillus*.

The additions in this manner of alkaloids have been even more marked; the three alkaloids of pomegranate have been reduced to one and called punicine, an anthelmintic; pereirine and lantanine as antipyretics; scopoline a mydriatic; strophanthine a cardiac tonic; hyoscine of the same composition as, but no better than hyoscyamine, and finally (we have long suspected that it contained something else) sauer kraut has given us an alkaloid.

I regret that the discoverer neglected to give it a name, but presume he is not yet fully convinced that it is not a shirt button.

While these brief references may serve as incentives for thought and expression, we must not forget that the increase of knowledge in therapeutics is developing newer and better uses, and a correspondingly increased demand for many older drugs that have been almost discarded. Kava-kava has made a prominent appearance; as a blennorrhagic hydrastia is equal to it; adonis vernalis as a substitute for digitalis; pelletierine instead of pomegranate and other tæniacides; glycerin as quite equal to pelletierine; cannabis indica as a local anæsthetic and in neuralgia; ergot and ox-gall in typhoid fever, the former also for the bad symptoms from quinine and salicylic acid; naphthaline in typhoid fever, and as a harmless general antiseptic; sulphuric acid in diphtheria; vaseline as a food and substitute for butter; the stinging nettle (urtica dioica) as a styptic; while a few may find a gold mine by converting their stock of cobwebs into tincture as a specific for malaria.

Thus far my gleanings seem to have involved the fact that there has been a peculiarly associated advance in pharmacy and medicine; this is necessarily true, for the demand is usually first created by the latter before there is any occasion for advance in the former. But it is complimentary to pharmacy and chemistry that the supply is so prompt, as also the fact that these discoveries have been mainly at their hands. At all events, when once adopted and established their almost entire manufacture and perfection is handed over to the pharmacist, and he thus has a rightful claim to them as evidences of his advancement. However, if any one should wish for a little thought on the distinctive advancement of dispensing pharmacy, he can find ample food for reflection in lanolin as a cleanly and permanent basis for ointments, which does not become rancid, and is easier absorbed than vaseline; in hydrochlorate of quinine as a substitute for the sulphate in the more convenient manufacture of compound elixirs; in the fact that tinctures, wines and most syrups may legitimately be made from fluid extracts; that oil of wintergreen will preserve most mucilages and syrups; that pressed ergot will keep at least six and one-half years, and is not subject to attacks from insects; that apomorphia is *not* produced by long keeping of morphia salts; that chloroform treated with one part in a thousand of absolute alcohol may be kept indefinitely in sunlight; that alcoholic preparations are incompatible with chloral, hypnone or urethan; that arsenic does not form an oleate; that the disagreeable odor occasionally noticed in soda water is often due to decomposition of ultramarine in the sugar used for syrups.

These are but small representations of what constitute the advancement during the past year, but are ample indications of the fact that it has been one of the most prosperous and progressive ever known to pharmacy. It shows a steady and substantial growth, every item of which is a step into the mysteries of nature for the benefit of mankind, and will serve as a basis of almost unlimited future progress. No cause can show more willing or earnest workers than this, and with the past record as a guide we have every reason to predict that the coming year will glisten even more brilliantly with her hard earned jewels, and that the succeeding years will narrow the field of mystery, will widen the limits of knowledge, bring confidence out of suspicion, reason from stupidity, honor for honesty, respect for ambition, reward for merit, and we hope dollars for value received. And when the last shade of mist shall be dispelled by the bright rays of knowledge, the sun shall shine on no greater blessing to mankind than the profession of pharmacy.

ON POPPY CULTURE AND OPIUM PRODUCTION IN THE UNITED STATES.[1]

BY EMIL WESCHKE, NEW ULM, MINN.

The experiments relating to the cultivation of the poppy in North America for the purpose of obtaining opium therefrom are very limited. Some opium is stated to have been produced in Virginia

[1]From contributions to the Department of Pharmacy of the University of Wisconsin.

and other Southern States, and to have been employed in the medical practice of the Southern armies during the civil war, while some was likewise produced in New Hampshire during the war of 1812.* In 1870,† Prof. Wm. Proctor, Jr., examined a specimen of opium obtained from poppies grown in Vermont, and found it to afford 15.75 per cent. of morphine, together with 2 per cent. of narcotine (impure) and 5.25 per cent. of meconic acid. In 1871 Mr. Geo. W. Kennedy‡ reported on a specimen of opium produced in Pennsylvania, from which he obtained 8.75 per cent. of crystalized morphine, and a specimen prepared in Tennessee contained, according to Mr. Lillard,§ 10 per cent. of alkaloids (amount of morphine not stated). These experiments, as will be seen, relate more especially to the cultivation of the poppy in the Southern or middle sections of the United States, no observation having apparently been recorded as yet with reference to the production of opium in the Northwest,¶ although a spurious opium, consisting chiefly or entirely of an extract obtained from the poppy plant, and containing little or no morphine, was brought prominently to notice a few years since,‖ and stated to have been produced in Wisconsin. The experiments upon this subject as conducted by the writer during the past summer (1885) in the State of Minnesota may therefore present something of interest.

Through the kindness of Professors Trelease and Power I was supplied with several varieties of poppy seed from the "Jardin des Plantes" of Paris and the "Royal Botanical Garden" of Berlin, while Jas. Vick, of Rochester, New York, furnished me with seeds grown by himself. In order to convey an idea of the numerous varieties at my disposal I will enumerate them. The French seeds were designated as follows:

A. Papaver setigerum.
B. Papaver dubium.
C. Papaver laevigatum.
D. Papaver spicatum.
E. Papaver conimutatum.
F. Papaver somniferum.
G. Papaver orientale.
H. Papaver Lecoquii.
I. Papaver collinum.
J. Papaver bracteatum.
K. Papaver mixtum.
L. Papaver Rhoeas, var.
M. Papaver somniferum, var. duplex.
N. Papaver croceum.
O. Papaver argemone.
P. Argemone Mexicana.
Q. Argemone grandiflor.
R. Meconopsis cambria.

The following were the German varieties:

I. Papaver bractaetum.
II. Papaver nudicaule.
III. Papaver Burserianum.
IV. Papaver Lateritium.
V. Papaver Pilosum.
VI. Papaver Caucasicum.
VII. Papaver Alpinum.
VIII. Papaver bracteat. var. intermed.
IX. Papaver dubium, var. obtusifolium.
X. Papaver somniferum, var. polycephalum.
XI. Papaver dubium, var mecranthium.
XII. Papaver Rhoeas.
XIII. Papaver somnif. var. melanocephal.
XIV. Papaver argemone.
XV. Papaver Apulum.
XVI. Papaver hybridum.
XVII. Papaver dubium.
XVIII. Papaver somniferum.
XIX. Papaver somnif. var. endocephal.
XX. Papaver collinum.

The American seeds were marked as follows:

1. Field poppy.
2. Papaver croceum.
3. Papaver invol. max.
4. Papaver umbrosum.
5. Papaver orientale.
6. Pæony-flowered poppy.
7. Ranunculus-flowered poppy.
8. Papaver Nurselli.
9. Carnation-flowered poppy
10. Papaver bracteatum.
11. Single opium poppy.
12. Opium poppy.

All the seeds seemed in good condition and capable of germinating. They naturally varied in color, size and general appearance, some being smaller than a pin's head, while, *e. g.*, *O.*, Papaver argemon, was the size of black mustard seed, and of a gray color. Others coincided closely with each other, as was the case with all varieties of Papaver somniferum, which had the characteristic appearance. Among the smallest seeds were those of IV, P. Lateritium, V, Pilosum, and VII. P. Alpinum, all of which somewhat resembled each other, having in common the blackish-brown color and roundish shape; they might have been compared with rape seed, but for their size. The largest seeds of quite perfect globular form were those of *Q.*, Argemone grandiflora, and *R.*, Meconopsis cambria; they were of a grayish-white color and very light.

It will, perhaps, be well to state the geographical location of New Ulm, the place at which these investigations were carried on. The city is located quite on the 44th parallel, and about 100 miles southwest from St. Paul, Minnesota, in the heart of a rich farming district.

The weather at the beginning of May being favorable, I concluded to sow the seeds, and made preparations accordingly. The soil to receive the poppy seeds was a rich, dark loam, well fertilized the preceding year, and was now thrown up to the depth of six to nine inches, all clods being broken, and stones and other useless material removed. Beds were then measured out to the length of about fifteen feet, and of varying width, as the amount of seed demanded. Rills were now made, and the seed thinly spread and covered over with about one-half to one inch of soil. Each bed was provided with a mark designating the variety of seed planted in it, and thus any mistake was effectually guarded against.

In the beginning of May the American seeds were sown in a part of the grounds which appeared the most favorably situated, being touched by the sun during the entire day. Soon afterward a rain set in and thoroughly wetted the soil, thus giving the seeds every conceivable chance to germinate.

At about the middle of May I placed the French seeds in the ground under quite favorable circumstances. Meanwhile, some of the previously planted ones had germinated, and the leaf-blades of twelve opium poppies made their appearance abundantly. At the same time I noticed that everywhere in the garden the adventive, white, double poppy, which had been in growth during previous seasons, made its appearance, and, from the fact of its never before having sprouted so abundantly, I inferred that the weather was particularly favorable for the germination of the poppy.

Toward the end of May I received the German varieties, and at once sowed them, partly on the ground above referred to, and the rest on a piece of land situated on a bluff, but protected on every side by trees. The soil was a rich, heavy, forest humus, and had been a fertile field for grain the year before.

The weather continued quite fair till the begin-

*Proc. Amer. Phar. Assoc. 1865, p 51; *Ibid.* 1871, p. 108.
†Amer. Journ. Pharm. 1870, p. 144.
‡Proc. Amer. Phar. Assoc. 1871, p. 264.
§*Ibid.* 1872, p. 241.
¶Mr. J. C. Huber, of Fond du Lac, Wis., informs me that on one occasion he collected about an ounce of opium of good quality from poppies grown by himself, but no accurate estimation of the amount of morphine was made. (F. B. Power.)
‖Proc. Amer. Phar. Assoc. 1874, p. 554.

ning of June, when much rain, accompanied by high winds and a changeful temperature, set in; but this state of affairs rather seemed to favor the growth of the seeds, for, on looking over the land on June 15, I noticed that some plants of each of the following varieties presented a thrifty appearance, while others gave no indication as yet of their germination:

Of the American seeds were noticed:

1. Field Poppy, sparingly, although of this variety but a trifle had been sown. 7. Ranunculus-flowered Poppy. 11. Papaver somniferum, doing exceedingly well.

Of the French seeds I noticed the following in growth, all of them, however, sparingly:

I. Papaver collinum. *J.* P. bracteatum. *K.* P. mixtum. *L.* P. Rhoeas, var. *M.* P. somnif. dupl. *P.* Argemone mex. *Q.* Argemone grandiflor. *R.* Meconopsis cambria.

Of the German varieties I noticed that one or two had developed leaves, but in spite of careful weeding, I had not the satisfaction to see any more seeds germinate.

The American and French poppies were thoroughly freed from weeds, and the ground about them hoed and thrown up against the young and tender plants. On June 24 I noticed that the adventive poppy was budding freely, and somewhat later the flowers expanded.

A few of the American varieties were about to blossom, and noticing that many of the plants stood rather closely together, I determined to transplant some of them. A wet and slightly broken soil was accordingly prepared for them, into which they were carefully placed, providing them with enough water and shielding them from the hot noon-day sun; but they all withered, probably from the fact that their long roots could not find enough nourishment in the new soil. Meanwhile some of the poppy plants had lost their petals, and upon carefully incising one of the naked capsules, I tasted of the profusely flowing juice, which possessed a pink color, a persistent bitter taste, and a narcotic odor. The following day the exuded juice had assumed a chocolate-brown color, and was of a pasty consistence.

The weather up to this time had been quite dry, although not very hot, and noticing the withered appearance of some of the poppy leaves, I watered the plants well, a precaution which proved unnecessary, since soon afterward much rain, accompanied by a high wind, prevailed. It was feared that the latter might injure the poppies, as some of them were quite tall, and, although provided with stout stems, seemed rather delicate; but no damage resulted, and as a consequence of the plentiful rain the plants revived completely, and soon burst into flower.

It was a handsome sight to behold the numerous and variously colored petals that adorned the entire ground, for no less than thirty-nine entirely different hues were observed. Some of the flowers were white and single, while others of the same shade were double; some of the varieties exhibited a dark purple color, passing either into violet or yellow. Some of the French poppies had very delicate pink petals.

The capsules of most of the plants were about an inch in length, while some of the Papaver somniferum assumed the size of a small lemon. The French varieties, however, showed only very small heads, which were not fit for incising, and I considered these species as adapted only for ornamental purposes.

On July 6 I commenced the incision of the capsules of the adventive poppy, using a small, sharp scalpel, which I drew around the capsule either in a transvere or longitudinal manner. It was noticed that the longitudinal incisions yielded a somewhat greater amount of juice, a fact easily explained by considering the structure of the poppy capsule. On some occasions the incisions were made rather too deep, and thus a part of the exudation was lost.

On the morning following the incising of the poppy I gathered the concrete juice on porcelain plates, scraping it off with a blunt knife. These masses were then spread over the plate and the latter placed in a perfectly dry, warm and shaded attic, where the mass might lose its moisture.

The P. somniferum, which fruited well, occupied most of my attention, and from it I gathered the opium which afterward served for an analysis.

Hot weather set in by this time, and it seemed as though the sun would scorch the plants. High winds were also frequent, but did not cause any injury. The dew which covered the plants in the morning sometimes washed away most of the exuded juice, and the capsules seemed to promise but a small amount of opium; it was only in exceptional cases that I was able to incise the capsules twice, the hot sun soon afterward causing them to shrivel and dry up, so that while incising plants on one corner of the bed the plants opposite me were withered.

The opium thus obtained was of a rich, dark brown color, had a very bitter taste, and strong odor, and, when dry, a conchoidal fracture. On a still day the aroma of the drug would hover over and beyond the poppy field. Even upon drying it lost none of its richness, and apparently suffered no material change from the time it was placed in the attic antil it was analyzed.

Before conducting the analysis a series of comparative experiments was made with the process of assay of the United States Pharmacopœia and the method of Professor Flückiger, as recently elaborated and perfected by him.* The superiority of the latter process was at once evident by the purity of the morphine obtained.

The analysis of the opium prepared by myself may now be briefly described:

Five grams of the opium when dried for an hour and a half, at a temperature of 60° C. in an air bath, lost 0.14 gram, or 2.8 per cent. of moisture. Four grams of well-dried opium were washed with nine grams of stronger ether, and then dried in an air-bath at 60–70° C. The opium was now transferred to a flask containing forty grams of distilled water and allowed to macerate for twelve hours, being shaken well at intervals; 21.25 grams of the aqueous solution thus obtained were now filtered off into an exactly weighed and perfectly dry and clean flask; the solution was of a rich brown color, and had a very bitter taste. To it were added 6 grams of alcohol, 5 grams of ether and 0.5 gram of ammonia water (spec. grav. 0.95), and the whole allowed to stand for twenty-four hours, with frequent agitation. A mass of crystals

*Archiv. der Pharm., Band 223 (1885), p. 298.

immediately formed on the addition of the ammonia water, and the amount increased upon standing.

A filter of exactly known weight was now moistened with ether, the ethereal layer on the opium mixture taken up with a pipette and transferred to the filter, which was then well covered. The residual mixture was now agitated with 5 grams of ether, which was again transferred to the filter, and allowed to pass through. The entire mixture was then brought onto the filter, and the crystals of morphine washed twice with 6 grams of a mixture of equal parts of alcohol, ether and water, and then dried with a gentle heat in an air-bath. The flask in which the morphine had been precipitated was also thoroughly dried and weighed, and the weight of the crystals of morphine clinging to its sides determined and added to the weight of those dried on the filter.

The total amount of morphine so obtained was 0.3046 gram, or equivalent to 15.28 per cent. To test its purity one part was agitated with 99 parts of lime-water, in which it was found to be perfectly soluble.

A portion of the aqueous solution of the opium was tested qualitatively for sulphuric acid, and its presence abundantly confirmed.

In order to determine quantitatively the amount of meconic acid present, the liquid from which the morphine had been separated was diluted to the measure of 50 cubic centimeters, then acidulated with sulphuric acid, brought into a separating funnel and shaken repeatedly with ether; the latter liquid was then separated and filtered into a weighed capsule, in which it was allowed to evaporate spontaneously; 0.07 gram of meconic acid was thus obtained, or 3.5 per cent.

For estimating the narcotine and codeine I proceeded in the following manner:

Two grams of the opium were triturated with pumice stone to a very fine powder, which was brought onto a filter and subjected to the action of boiling ether in a Soxhlet's extraction apparatus until the ethereal solution remained colorless after percolating through the powder. The ether, containing the alkaloids narcotine and codeine, was allowed to evaporate in a capsule, the residue taken up with acidulated water, the solution transferred to a separating funnel and shaken with chloroform. This extracted the narcotine, which amounted to 0.0065 gram or 0.325 per cent. The remaining acid aqueous liquid was now made alkaline with ammonia water, and shaken with ether. The latter solution afforded 0.0083 gram of codeine, or 0.416 per cent.

The analysis of my opium may therefore be summarized as follows:

Morphine	15.230 per cent.
Narcotine	0.325 " "
Codeine	0.416 " "
Meconic acid	3.500 " "

It will be remembered that my opium was obtained from Papaver somniferum, the species of poppy which, in one or more varieties, is the chief source of the foreign drug. This species would also seem to be the only one adapted for cultivation in our northern latitudes, for the purpose of producing opium, since the seeds obtained from plants grown in France and Germany did not germinate, or only very sparingly, while the true opium poppy flourished well.

DOCTOR AND DRUGGIST.

BY OTTO SCHNURRER, BROOKLYN, N. Y.

II.

"Honor the physician for the need thou hast of him. His skill shall lift up his head, and in the sight of the great men he shall be praised. By medicines he shall allay and cure thy pains; and there is a time when thou must fall into his hands."

This motto, culled from the paragraphs of an old doctor's book out of grandfather's library, tells the whole story. For if "the apothecary shall make sweet confections and shall make up ointments of health," the physician will prescribe them and earn the lion's share of the glory connected with the curing and allaying of pain.

The social position of the druggist, together with that of the physician, has already been fixed, on general principles, to be in the midst of the body politic, at the head of all the professions having, like itself, a material object; and at the foot of those which bear a more ideal character.

The two professions, therefore, as far as their general scope is concerned, stand on a footing of perfect equality; as far as either of them is not only a science but also an art, they may, likewise, be said to occupy the same level; and as far as their respective ages and their origin are concerned, neither of them can claim a superiority over the other, or a priority of existence, because they have always co-existed and, like the Siamese twins, cannot live without each other. But as far as each one of them may, and at the present time does, perform its own special functions within their common sphere of action, they admit of a distinction of rank.

If in the beginning and at the early dawn of history we find that the two professions were always united in one and the same person; if that person generally appears as an adjunct to some higher order such as the priesthood; if one thousand years before the beginning of the Christian era the Asclepiades prepared and dispensed medicated syrups, tinctures, potions, and ointments in the temples of Kos; if kings like Solomon did not find it below their dignity to discourse "the natures of living creatures, the diversity of plants, and the virtues of roots;" if prophets like Isaias condescended to save the lives of kings by poulticing their sores with "figs;" if professional men like Praxagoras of Kos, Theophrastus of Eros, Nicander of Kolophon, Scribonius Largus (in his "compositiones medicae"), and above all, Galenus of Pergamos, were more concerned in the practical questions about materia medica and the best manner of turning the same into finished officinal preparations than in discoursing pathological problems; if popes like Sylvester II, the once famous Gerbert, and monks like Albertus Magnus, the superior of St. Thomas in everything but theology, did not disdain to spread the knowledge of herbs, plants, roots, minerals, and their virtues; if missionaries prided themselves upon enriching our materia medica with one of the most valuable, reliable, and indispensable therapeutic agents, the Cinchona preparations, once known as Jesuit powders, now used as quinine, cinchonidia, etc., more extensively than perhaps any other medicine; and if finally, in our

own day, the art of healing and that of compounding medicines are frequently exercised conjointly, not only by patent medicine doctors, but also by a great number of regular country physicians, without drawing the line of professional distinction: *it is evident that the pedigree of the two professions must be absolutely the same.*

It would be difficult, indeed, to tell which of the two twins was the first-born; for, like Esau and Jacob, "they struggled in their mother's womb," and "when they came forth the one held his brother's foot in his hands." Sheer folly, therefore, would it be for them to turn around and make war upon each other and their sire! If the medical Jacob, by the smartness of his mother, soon gained the higher dignity, primogeniture and ascendancy over the pharmaceutical Esau, the latter will not fail to shake hands with the former upon a calm second thought and due apology! And if the same Jacob, by his own smartness, has generally managed to enrich himself at the expense of his uncle, the natural philosopher, by raising for himself out of Laban's flocks a first crop "of speckled lambs and spotted kids," leaving him "the late coming of the second heat only;" that is plainly a case, not between the doctor and the druggist, but between the doctor and the physiologist or biologist. It is almost certain that Mr. Pasteur, who does not belong to the medical profession, will not for any length of time enjoy the fruits of his discovery—if he really made one—but will soon have to divide with the medical freebooters on the ground of general welfare.

But returning to our subject, it should be clearly understood that the ancient division of medicine into the three departments of "*Pharmacy*, *Chirurgery* (surgery), and *Dietetics*," such as it was made about two thousand years ago at the celebrated high school of Alexandria, does not correspond to our present division; the term "pharmacy" at that time meaning a medical school or system of curing disease by giving medicine, as opposed to another system excluding every kind of medicine and curing by dietetic regulations only. "Pharmacy" and "Dietetics" in those days were much like "Allopathy" and "Homeopathy" of our own day, less the sugar pellets, which at that time were not wanted to mask the true purpose of letting nature run her own course. The ancient pharmacists, then, were regular physicians, preparing and dispensing their own (allopathic) mixtures, thus uniting the two professions (medical and pharmaceutical) in one and the same person, very much like our own country doctors keeping their own drugstores. It was not until the Saracens set up their first independent drugstores at Bagdad, in their cities on the north coast of Africa and in Southern Spain, toward the end of the eighth century; until they introduced the first official dispensatories (Ebn Sahel) in the ninth century; until Constantine of Carthage established the first "Pharmaceutical Stations" in Salerno, Italy; or until, a little later on, Nicolaus Praepositus published his first "Universal Formulary," that pharmacy commenced to branch off from medicine for good.

In Germany and its dependencies the first stringent pharmacy laws were enacted under Emperor Frederic II in the early part of the thirteenth century, from which time the two professions continued to work for their common end, but each one in its own appropriate sphere. For as the fields of investigation increased on every side, and as the horizon of human science extended far beyond its former compass, the separation of pharmacy from medicine became more and more a settled fact, and was naturally perfected on the principle of "division of labor," with the understanding that pharmacy should take charge of the *executive* branch of the hygienic department, or, at least, that portion of it which relates to the regular and trustworthy supply of the materia medica, its refinement into officinal preparations, and its ultimate dispensation; while medicine should retain the *legislative* functions thereof.

It is, in the first place, on this score that the latter can claim a superiority over the former; and, in the second place, also because the practice of medicine requires a wider range of scientific attainments than that of pharmacy.

In examining this claim and analyzing the foundation on which it rests, we must take the highest standard of perfection for either profession; that is, we must compare the scientific attainments of the model pharmacist with those of the model physician of the present day. In this comparison the term pharmacist will stand for the druggist, apothecary, pharmaceutical chemist and manufacturer of medicines; the term physician will include the surgeon, obstetrician, dentist, and every other kind of specialist.

Considering first the preparatory studies that would seem to be indispensable for either of the two professions, it is plain that beside the ordinary school education comprising the grammatical knowledge of one's vernacular tongue, a cursory knowledge of general history and geography, and a fair understanding of such elementary parts of mathematics as arithmetic and algebra are, *together with the possession of a legible and orthographic handwriting* (which, now-a-days, every office boy must have), the model doctor and the model pharmacist have also acquired a sufficient mastery of Latin and Greek etymology, enabling them to make an intelligent and correct use of the many medical, pharmaceutical, and general scientific terms borrowed from those languages, without which they must forever remain below the standard of perfection in their professions. But to play the part of a linguist, to construe Ciceronian sentences, to analyze Homeric verses, or to make annotations upon the writings of Hippocrates, Pliny, and Galen would be for them a mere waste of time, and should be considered as an accomplishment that could have been acquired at the expense of more useful studies only, and therefore unnecessary if not hurtful to those who intend becoming practitioners in either profession.

Considering, in the second place, the more special studies, without which neither the doctor nor the druggist can fulfill his mission, we have general physics, chemistry, together with botany and the outlines of mineralogy and zoology as the necessary propædeutics for either profession, in which the pharmacist ought to be if not the superior at least the equal of the physician.

Proceeding now to the strictly professional studies that are common to both professions, we have the application of the above mentioned general sciences to the materia medica with special reference to therapeutics, or the science of the

various substances employed in and for curing disease. It is here that the two professions begin to separate into distinct scientific branches. While the pharmacist is more concerned in the derivation of those substances, their constituents, their general physical properties, their examination and various tests for purity; the proper methods of obtaining them either directly from nature or indirectly through the channels of trade; of preserving, refining and compounding them into officinal preparations and holding them ready for actual dispensation; the physician will turn his main attention to the therapeutic effects which the medicines so furnished and prepared have upon the human body in general, and special pathological conditions. But, in order to do that successfully he must be able to make a correct diagnosis of the particular case to which his therapeutic skill is to be applied. *And here is the real boundary line that separates medicine from pharmacy.* The model physician may be, and frequently is, the inferior of the experienced pharmacist in the general science of materia medica, and even in the comprehensive knowledge of the therapeutic properties of drugs and medicines; and celebrated physicians have been known to be rather poor pharmacologists or pharmacognosists, unable to tell a lump of aloes from one of guaiac, the smell of anis from that of fennel, or the taste of gentian from that of cinchona; unable to roll a pill, to spread a plaster, or to make a fluid extract; ignorant of the therapeutic property of many a valued medicinal substance; and commanding but a limited medicinal repertory of a few dozen of the leading therapeutic agents only; but having an exact knowledge of their timely and well measured application, they have, by virtue of their diagnostic skill and with the exercise of a reasonable reliance upon the honest co-operation of a trusty pharmacist, succeeded in distancing all their many-sided, polymathic rivals.

But as there can be no right discrimination of diseases without a thorough knowledge of general and special pathology, no pathology without a previous knowledge of anatomy and physiology, and as all these sciences lie outside of the range of pharmaceutical training, it is evident that the physician, by virtue of his diagnostic skill alone, is the superior of the druggist, even if he be his inferior in pharmaceutical knowledge. For if the pharmacist knows how to load the gun, the physician must take aim and fire it. And though the latter can do nothing without the former, yet will every center shot redound to the greater glory of the medical marksman. It is on this account that "the physician shall lift up his head and shall be praised in the sight of the great men." But if he fails in diagnostic skill and makes it a habit to fire away at random, he has certainly no claim of superiority over the druggist. Considering that the right discrimination of diseases which makes the doctor, particularly in the treatment of the more difficult and occult cases, is scarcely ever found in young beginners, but comes with advancing years only, through increasing practice and by a long experience; noticing also that the ranks of the medical profession are year after year swelled by the accession of great numbers of raw recruits coming fresh from the halls of the college through which they have passed in haste, thus representing an indefinite mixture of diagnostic and agnostic elements difficult to analyze; it would certainly seem to be indicated, at least for the inexperienced beginner, not to indulge too freely in the parading of that innate superiority which medicine, per se, may claim over pharmacy, but which the individual physician cannot always substantiate in his own person. For it is certain that the pharmacist, so far as the knowledge of the general therapeutic effects of medicine is concerned, ought to be and mostly is the equal of the doctor; wherefore also, the difference becomes infinitesimal whenever and wherever random firing is practiced. But, whenever two or more doctors disagree, which is said to happen rather frequently, there must be somebody that fires at random, beside the ordinary cases in which neither consultation nor criticism can take place. Apart from all these considerations, however, it may be said that the truly educated doctor will never be guilty of slighting or snubbing the druggist that understands his business; neither will the model druggist ever fail to "honor the physician," even the young and inexperienced one, not only for the respect due him in theory, but also "for the need he has of him" in practice. For nowhere does the old saying, "Manus manum lavat," apply with greater force than in the harmonious relation existing between the doctor and the druggist. But among the causes that will sometimes disturb the relation stands foremost what is called "prescribing over the counter," and this is of sufficient importance to deserve a special investigation, particularly with reference to the title or claim on which it has been or may be practiced, and the limit beyond which it ought not to go.

NOTES FROM THE WISCONSIN SCHOOL OF PHARMACY.

We present the following abstracts from the able "contributions" recently issued by the School of Pharmacy of the University of Wisconsin:

THE BARK OF FRAXINUS AMERICANA had been investigated by Edward Kremers with a view of determining the presence of an alkaloid referred to by Edwards and Roberts (Am. Journ. Pharmacy p. 99, '82 and p. 117, '85). The experiments place in question the existence of a true alkaloid, but serve to indicate as desirable for future investigation the chemical character of fraxin and fraxetin, and the relation of the former to Æsculine, the fluorescent principle of the bark of æsculus hippocastanum. Although the presence of a substance was proved which gave reaction with alkaloid reagents, this was isolated, but made silky, needle-shaped crystals, obtained by extracting the bark with alcohol and then transferred into chloroform from an acidulated solution proved to be mannite. These crystals yielded reactions with alkaloid reagents.

THE LEAVES OF ÆSCULUS HIPPOCASTANEUM were investigated by Frederick O. Ray, with a view of determining whether or not they contained any active principles. The hope which has been entertained that this plant, of the order Sapindaceæ, so closely related to Erythroxylaceæ, may contain

cocaine or analagous principles was, however, dispelled since neither cocaine nor caffeine or even æsculin, so plentiful in the bark, was found.

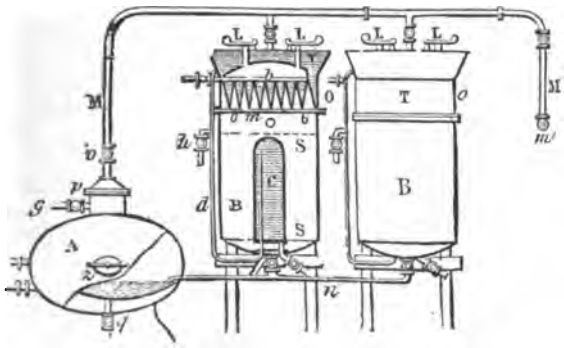
EXAMINATION OF THE LEAVES OF PODOPHYLLUM PELTATUM with a view of determining whether or not these possessed the same active principles as the rhizome. No alkaloid, either fixed or volatile, was found, but a small quantity of a volatile acid which proved to be acetic acid. The percentage of resin obtained by precipitating the alcoholic tincture in acidulated water amounted to 6 per cent., which contained a considerable portion of a soft resin and was more ineligible and less active medicinally than the resin obtained from the rhizome.

EXAMINATION OF THE ROOT OF PASTINACA SATIVA or wild parsnip, by Joseph T. Bennett, proved the same to be free from any poisonous properties attributed to it. This conclusion is corroborated by Prof. Power, who presents the experience of Dr. J. J. Brown with the roots growing wild. The doctor ate a hearty meal from parsnips gathered and grown by himself without experiencing the least ill effects.

A YELLOW MOLD frequently found upon so-called Turkey opium has been examined by William Trelease and found to be a species of Eurotium, E. aspergillus-glaucus, *Link*. A specimen of this opium assayed by Mr. Wescke showed it to contain 6.10 per cent. of moisture and 8.77 per cent. of morphine.

NEW EXTRACTOR FOR DYE-WOODS.

One of the most recently devised apparatuses for extracting the principles contained in dye-woods or other substances is shown in the accompanying engraving. It is an Austrian invention, and consists of a boiler, A, provided with a man-hole, z, and of a certain number of extractors, B, provided with safety-valves, L, and connected with the boiler. In the upper part, o, of the extractors are placed coolers formed of two perforated disks, b, whose



NEW EXTRACTOR FOR DYE-WOODS.

superposed apertures are connected by cones, c. The material to be exhausted is placed between the perforated partitions, S, and the extractor is then closed with its cap, O, and the receptacle, T, is filled with water through the tube, d, which carries a cock, h. The extracting medium (water, alcohol, or other fluid), which has been placed in the boiler, is heated by steam introduced beneath the false bottom. The vapors rise in the pipe, M, pass into the part, m, of the extractor, are condensed by the cones, and fall through the apertures in the disk, S, upon the substance to be exhausted. In the interior of the extractor there is another cooler which tends to still further condense the vapors. The product of this condensation collects beneath the lower perforated disk, S, and then returns to the boiler through the pipe, n. The extracted product remains in the boiler, while the solvent is volatilized anew, and thus passes several times over the substance. This operation is continued until a test shows that the solvent is no longer acting.

It is well to employ several extractors, one of which is empty, while the second is full, and the others are in action. The operation is continued, and does not cease until the boiler is emptied. To effect this, the cock, v, of the pipe, M, is closed, and the cock, p, is opened and the steam allowed to escape through the pipe g. The extract is removed through the cock, q.

When steam is used for the extracting, it is introduced into the cooler and cap in the same manner as already described for other vapors.—Bull. du Mus. de l'Industrie.

PURE WOOL FAT, LANOLIN OR "AGNINE."

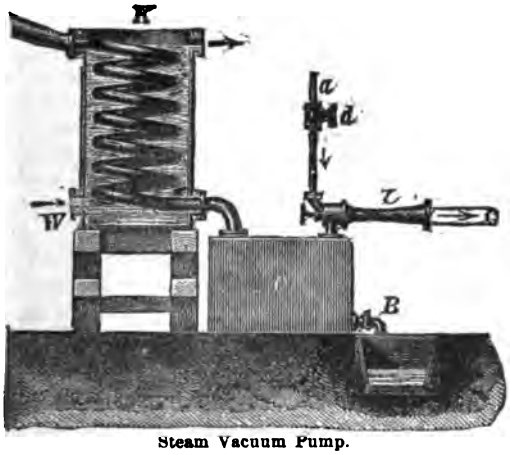
After giving an account of the utilization of waste products by modern chemistry, Mr. Frank A. Davidson, in a paper read before the Massachusetts Pharmaceutical Association, called attention to the fact that about 200,000,000 pounds of unscoured wools are used in the United States, while about 50,000,000 pounds of wool fat and fertilizer are allowed to go to waste. He then called attention to the different methods of removing fat from the wool, giving preference to the benzol method, which does not remove from the wool the moisture necessary for its suppleness, and the subsequent drying requires much less heat, while the wool requires less oil to prepare it for spinning, and the fat is more easily rendered. He then gave a resume of the facts concerning cholesterin, showing that it was found in various normal and abnormal products of the animal economy, and that in birds the object of the fluid from the coccygeal glands was not so much to oil the feathers as to remove the excess of fatty matter. Agnine, a type of the cholesterin fat, was in its chemical nature quite different from ordinary fats, and since it originated from horny tissues, was readily absorbed by the skin. It was very difficult to saponify even with an alcoholic solution of caustic alkali, and hence was not so likely to become rancid as were glycerin fats. It was soluble in hot alcohol, in chloroform, naphtha, and the various fixed and volatile oils. It produced with water a fixed and creamy solution; some varieties taking up and retaining their own weight of water. It furnished with glycerin (25 per cent.) a smooth, creamy mixture. It was soluble in the various liquid and fluid hydrocarbon oils. With vegetable extracts the resulting ointments were smooth, permanent, and superior to those made with lard and petrolatum. Potass. iodide, chloral hydrate, and chrysophanic acid were easily rubbed to a permanent ointment; metallic mercury is extinguished in a few seconds. The melting point of agnine was 120° F. The color resembled simple ointment; agnine became dark on exposure to air.

STEAM VACUM PUMP FOR DISTILLATIONS IN VACUO.

The principle of the filter pump has been explained so often that it may be assumed to be familiar to all our readers. The same principle and construction has long been employed in the construction of pumps, where the vacuum (or pressure) is obtained by a current of steam.

The application of such a steam vacuum pump to distillation under diminished pressure is illustrated in the accompanying cut. The still and condenser are of the ordinary construction. The receiver *C*, however, is a closed vessel, into which the pipe from the condenser fits air tight. Upon another orifice, on top, a steam vacuum pump is attached, the current of steam passing down the pipe *A*, and issuing at *L* through an expanded pipe. The rapid jet of steam aspirates all the air from the receiver *C*, and, in consequence of this, the liquid in the still will boil at a much lower temperature. By careful regulation of heat under the still—either open fire or steam—and by proper adjustment of the steam jet, a very low vacuum can be obtained.

In the case of liquids, which, on distillation, produce gaseous products which are not intended to



Steam Vacuum Pump.

be condensed, these are, of course, carried off along with the air and vapor of water.

When the volatile liquids heavier than water are to be condensed, the exit pipe of the condenser is made long enough to reach within a short distance (about one-half inch) of the bottom, and enough water is poured in to cover the end of the pipe.

If the liquid to be distilled is very light, and no lighter non-volatile liquor can be used as a layer to float on top, the steam jet issuing from the vacuum pump may be made to enter a second efficient condenser in which both the steam and the vapor of the volatile liquid are condensed together.

If the volatile liquid is alcohol, and the first condenser is kept properly cold, the steam vacuum pipe may be used unhesitatingly. Although it will aspirate some of the alcohol as vapor, yet the loss will not be important.

These steam vacuum pumps (steam jet pumps, or injectors) were first perfected by Korting, of Hanover, and may now be obtained everywhere. They may be had in all large cities, of all sizes, and for all purposes for which they can be applied, and are comparatively inexpensive.—American Druggist.

USES OF BOTANY.

There are still many people who think, or affect to think, that the science of botany bears very little relation to the practical side of human life. An opinion is prevalent among certain classes that the pursuit of the study is all well enough for sentimental girls and for a few hobby-riders among the opposite sex, but for serious men who have work to do in the world, a knowledge of this branch of science is altogether superfluous, and its pursuit a sheer waste of time. The absurdity of these notions is evident when we consider the fact that the vegetable kingdom constitutes the larger part of the organic world, that the entire animal world is dependent upon plants for its existence, that but for plants animals would soon be without food, would soon poison themselves to death by their own foul exhalations. It is further manifest in the fact that it is from plants that the human race obtains chiefly the materials with which to clothe and house itself; the principal medicines with which to cure its diseases, and a vast number of valuable products that in one way or another enhance the comforts of existence.

A knowledge of botany is also of importance to man in securing him from personal danger and loss. The vegetable kingdom yields not only food, clothing, building materials, medicines, sugar, gums, resins and sweet essences, but also some of the most deadly poisons. The accidents to human life from venomous plants are far more numerous than is generally supposed, and the great majority of these accidents are traceable to ignorance; but the loss of domestic animals from feeding on poisonous plants is unquestionably much greater. The known cases of poisoning from this source are very numerous, especially on the comparatively wild lands of the West, where the wild plants have not yet been exterminated in the struggle for existence with the domesticated sorts; but the cases of mysterious deaths of stock attributed to other causes, but which are really due to this, are possibly even more numerous than those in which the loss may be directly traced to a vegetable poison.

A case in point came to our notice a few days ago. A gentleman of wealth, residing in the West and who was an extensive raiser of blooded stock, lost last season some forty valuable horses in a mysterious way. Some were taken sick and died suddenly, others lingered along for months and then died, while still others were sick for a long time, but recovered. The trouble was first laid to drinking water, but a careful examination of the premises failed to establish any good ground for this belief, and finally the gentleman concluded to send for a botanist and have him examine his farm for poisonous plants. Professor E. S. Bastin, of the Chicago College of Pharmacy, was employed for that purpose and last week visited the farm. He found that in the borders of the marshes and low grounds with which the farm abounded, there were numerous plants belonging to the genera Sium and Cicuta, which are among the most venomous of our wild plants. The compound leaves of these plants were so numerously scattered among the tender sedges and grasses which cattle and horses are so fond of at this season of the year, that it was scarcely possible for them to feed in the low grounds without eating them, and, although it is known that

stock usually avoid these plants, the botanist ascertained that the poisonous plants had been cropped by the animals. In fact, a thorough examination of the entire premises and a study of the symptoms of the diseased animals proved almost beyond the possibility of a doubt that these plants were the cause of the whole difficulty. The investigation of the botanist will probably save this stock-raiser thousands of dollars every year.

But how many more farmers throughout the country are losing stock annually from "mysterious causes"? How many millions of dollars might be saved to the country if the stockraisers themselves had some scientific knowledge of botany?

Those who decry botany, or see no use for it, are also profoundly ignorant of the vast amount of preventable destruction to valuable crops by rust, mildew, and various other parasitic plants and of the destruction to human and animal life produced by bacteria and other vegetable organisms; they are ignorant of the fact that a scientific knowledge of plants has led and is leading to the improvement and the increase in number of our valuable food plants; they are ignorant of the fact that progress in medical knowledge is largely dependent on progress in botanical knowledge, and they do not know that medicinal plants, like food plants, may by intelligent cultivation and an attentive study of their habits be made to produce a larger quantity and a better quality of medicinal constituents.

More knowledge of botany and not less, is the need of the time. L. B. M.

EDUCATION OF CLERKS.

Mr. J. W. Colcord, in a paper presented to the Massachusetts Pharmaceutical Association, advocated an extension of the Chautauqua method, as modified by the National Institute of Pharmacy conducted by C. S. Hallberg, of Chicago, to meet the requirements of that large number of assistants who are unable to attend colleges continuously, and who desire proper pharmaceutical training. In addition, as most assistants are allowed two weeks' vacation in the fall, he proposed that in this time they should take a two weeks' course at a college devoted to laboratory work, and a similar two weeks' course in the spring (a vacation for which would be allowed by most proprietors) devoted to lectures, examinations and corrections. A course in French and German should also be given for the benefit of French and German residents. In large towns "quiz classes" of pharmacists should be formed; the better educated proprietors could give an occasional lecture on chemistry, pharmacognosy, etc. In the interim, between the Fall and Spring college course, each student should receive bi-weekly printed instructions, lectures, etc., and be permitted to propose questions to be answered in future numbers. This course, while, perhaps, not yielding results equal to a college course, would not fail of raising the professional status of pharmacy. The procedure was not antagonistic to colleges of pharmacy, but tended to increase the scientific aspirations of the assistant. In his opinion the standard of the boards of pharmacy would soon be so high that young men must devote their whole time to study during the college course. He was of the opinion that a committee should be appointed by the Association to prepare a circular setting forth the proposed method as already described, and send the same to every New England pharmacist and his assistants, asking, in case such a system were adopted, whether they would join in it? He proposed that the colleges join together in this movement, each dealing with the assistants in its own territory.

THE CUTTLE FISH.

The philanthropic character of the cuttle fish is seen in its service to three species of the animal kingdom. After falling a victim to the greed of its own kind, its only remains, namely its so-called bone or cuttle-bone, floating shoreward, is cleansed and purified from animal matter by the action of wind and wave, sun and sand, and further sacrificed to the voracious little canary. The class benefited by this combination of circumstances is man himself.

The United States imported from Marseilles in 1883, 160,760 pounds of bone. The cuttle bone is packed in chests, four of which when bound together with linen is called a strap, and weigh about 100 pounds. The recent custom of bird-seed packers inclosing a piece of bone in each package has greatly increased its consumption.

BACILLI HAVE BEEN DETECTED IN LAUDANUM by Dr. Puerta (El Siglo Medico) which look exactly like Koch's cholera bacilli, in various specimens of tincture of opium. The microbes showed a distinct motion, and appeared especially numerous in the precipitate on the sides and bottom of the vessel.

We do not see anything remarkable in the fact, says the Therapeutic Gazette, that a vegetable infusion of long standing should show fungi and microbic life; but possibly Dr. Puerta thinks he has discovered the true specific germs of cholera; if so, he will have to fight it out with Koch and Pettenkofer or can it be that the bacilli are the cause of the vis dormativa of opium?

"PICTET LIQUID" is the name given to a mixture of carbonic and sulphurous acid gas liquified by compression. It is named after Pictet in Geneva, and patented in Europe for use in ice machines. Its great economy is owing to the fact that a mixture of the two gases is much more readily liquified, that is, requires less pressure than in liquifying either gas separately.

NEROLIN is a white crystalline powder, soluble in 30 parts of 95 per cent. alcohol and in 25 parts of the fixed oils, sparingly soluble in water. It is used in Germany (Pharm. Cent.) as a substitute for the expensive oil of neroli, one part of nerolin being equivalent to 10 parts of the oil. Soap manfacturers use nerolin in the proportion of 20 to 30 grams to 100 kilos of soap.

A NEW HÆMOSTATIC PRÉPARATION (Liquor hæmostaticus) is obtained by Dr. Rothe from the nettle Urtica dioica with rectified spirit. The brownish green tincture obtained by maceration possesses marked hæmostatic properties.

Editorial.

Of all the various degrees conferred by institutions of learning, that conferred by the majority of American colleges of pharmacy is probably the most inappropriate and least worthy of appreciation. The title "Graduate in Pharmacy," abbreviated to "Ph. G.," is well enough for an adolescent alumnus arrayed in the glory of his commencement suit and redolent with the blossoms presented by a loving mamma or tender friend; it is dear to his heart even after the flowers of his professional christening have withered and died; his love for it, perhaps, survives the first year of clerkhood, but alas! as time rolls on and manhood's dignity appears, his affection is less demonstrative, less ardent, and when finally the importance of a proprietor is attained the "Ph. G." is carefully stowed away, no more to torment an inquisitive public and no more to humiliate its owner with its meaningless insignificance. The truth of this is attested by the experience and practice of nearly all graduates in pharmacy, excepting only those engaged as teachers or professors, who wear it presumably because of its attractions for prospective college youth.

The "Ph. C." of the Michigan School of Pharmacy is infinitely better. "Pharmaceutical Chemist" means something; it has the ring of manhood; a "chemist" may be a man, but simply a "graduate," what is it? Some meaning it may have in the past tense; it may imply a college education, but what is it in the present tense? What present qualifications, what present avocation, what but a reminiscence? The title "Ph. C." is not, however, broadly definitive of the qualifications of a skilled pharmacist with a college training. "Doctor of Pharmacy," "Phar. D." or "Ph. D." is, in this particular, better; but the first abbreviation is cumbersome and susceptible of puerile jest, while the latter is a plagiarism of "Doctor of Philosophy" The title "Doctor" is, moreover, universally associated with the sciences rather than the arts, to which pharmacy most properly belongs.

One only, and that the rarest, of the many titles in vogue appears to harmonize with all requirements. "Master of Pharmacy," or "Ph. M.," seems peculiarly fitted for the practitioner of a profession which has passed from the domain of pure science into an art. It has no unpleasing associations; its abbreviation is liable to no confusion with other titles; no other can lay claim to prior use; curiosity as to its meaning is readily satisfied by the three simple words, which say what they mean and mean what they say, and which admit of no possible ambiguity. The title is exact, mature in meaning and dignified. The lower degree "Graduate in Pharmacy" might continue to be bestowed as at present upon the alumnus who has just completed his college course, while the higher degree, "Master in Pharmacy," might be conferred in recognition of subsequent service upon a principle similar to the succession of "A. M." to the purely collegiate "A. B."

The hopeine controversy continues to rage, being evidently stirred up from time to time by the fact that race enmity was the origin of the seeming discovery that hopeine and morphine were to all intents and purposes, the same. It cannot be said that either side has taken the true scientific method of settling the controversy. Dujardin-Beaumetz, on the one hand, claims that the French have demonstrated hopeine is simply disguised morphine while Hager claims to have demonstrated that hopeine differs materially from morphine, but both have based their allegations on purchased specimens of what was alleged to be hopeine and have not taken means to demonstrate the existence or non-existence of an alkaloid with the alleged properties of hopeine, in the hop itself. No amount of squabbling over purchased specimens of what is alleged to be hopeine will settle a problem which requires for its solution only a careful analysis of hops. The minds of the contesting Gauls and Teutons have been so biased by race prejudice that they have failed to perceive that the question can be easily and efficiently settled in a scientific manner which would usually occur to the average chemist unless biased in some way.

The question of the admission of physicians to practice pharmacy without examination is once more being discussed in its relations to pharmaceutical education. It is certainly not for the interests of pharmacy that a graduate of such diploma-mills as most of the medical colleges are, should without special training be placed on a par with the skilled pharmacist. It has been and is claimed that medical dignity would be insulted by not permitting physicians to practice pharmacy, but outside of the small coterie in affiliation with the diploma-mills there is no intelligent physician but realizes that it is for his interest that his prescriptions should be dispensed by a skilled pharmacist rather than a physician half educated in medicine and not at all in pharmacy, and that the dignity of both professions is lowered by the existence of such hybrids. Any attempts to prevent the future intrusion of half-educated physicians on the province of skilled pharmacists will be regarded by all intelligent physicians with approval. Of course medical colleges will be apt to manufacture a sentiment against such attempts, but they represent the sentiment, not of the profession, but of what is in its essence a commercial corporation whose stockholders receive dividends or pay assessments as the diploma crop rises or falls.

Fashions in therapeutics are among the most commercially disadvantageous obstacles with which pharmacists have to deal. Some little great man among the physicians imagines he discovers some new drug or some new property in an old drug, and, being a friend of some man of prominence in the profession, the latter lauds the discovery and factitious demand for the article is created. Intelligent unbiased physicians soon discover the worthlessness of the alleged discovery and its reputation sinks as fast as it has risen. On the other hand, some able physician discovers a decidedly new property in a drug, uses it for certain well-defined purposes and gets valuable results. Some dilettante physician "improves" on this discovery and is followed by the great crowd of dilettante who discover, to their intense astonishment, the fact that the drug has dangerous as well as valuable properties; whereupon they denounce it as bitterly as they previously lauded it. The pharmacist meanwhile is in the position of the shuttlecock. If his stock does not contain the fashionable article he loses much patronage, while if he purchases it, the rebound which occurs in these therapeutical fashions is felt in his loss of profits from dead stock. Pharmacists could perhaps diminish this loss by continually discussing on scientific grounds to such physicians as consult them about new drugs the effects of such drugs. Of

course, this would have to be done cautiously since the physician is rather apt under such circumstances to suspect the pharmacist of not the best motives. If the pharmaceutical journals were to discuss philosophically the effects of all new drugs considerable aid would be given the pharmacist in this particular.

It is time that Congress gave heed to the manifest injustice of the present indignities to which hospital stewards in the U. S. army are subjected, and to the parsimonious policy with which they are obliged to contend. No class of men render more important service to the army, of none is more arduous labor required, no other branch demands greater professional skill, few others incur greater responsibilities, and none are so poorly paid. The United States Senate committee on military affairs in a just and sensible report on the subject, says:

"Hospital stewards are called upon to perform peculiar duties, professional in their character, and of a varied and important nature, involving efficiency, reliability, and competency. The post surgeon is often absent or sick, and the medical duties of the post at such times devolve upon the hospital steward, who is required to be an experienced apothecary or druggist, possessed of a practical knowledge of applying leeches, bandages, dressing wounds, caring for the sick, and preparing food, in addition to the performance of other arduous labor. The hospital steward must be a good clerk, an efficient druggist, a thorough nurse, a good dentist, and a practical cook—five important occupations combined in one man, which would seem to call for compensation equal, at least, to that received by the subordinates of the other staff officers, and approximating that of navy apothecaries, whose duties are identical with hospital stewards, and who receive $60 per month for work less arduous than that performed by hospital stewards."

In the face of these facts, hospital stewards have long been petitioning Congress for this slight amount of justice but without success. The immediate duty of pharmacists is to take proper measures to secure for these hospital stewards this very scant proportion of their dues. The question does not depend upon general motives of philanthropy. Everything which tends to elevate pharmacy as a profession tends to elevate the individual pharmacist. The United States in keeping its hospital stewards in what is practically a menial position, degrades and insults the professional pharmacist, an insult which every pharmaceutical association should immediately take steps to wipe out by making official recommendations to Congress that the Manderson bill be passed, as defined in our correspondence columns.

The Illinois Board of Pharmacy in its last report indulges in a tortuous endeavor to interpret the clause in the Illinois act which declares that "graduates in pharmacy must be such persons as have four years' practical experience in drugstores where the prescriptions of medical practitioners are compounded, and have obtained a satisfactory diploma or credentials of their attainments," etc. The dubious part of the clause, according to the Board, is as to whether the four years' experience shall antedate, codate or postdate the graduation. The Board then proceeds to argue that the clause "plainly indicates that an applicant for registration as graduate in pharmacy shall have four years' practical experience * * *prior* to graduation." The language "plainly indicates" nothing of the kind. It clearly declares that the candidate shall have a certain term of experience, and have obtained a "satisfactory" diploma. Upon this point language could not be clearer or more explicit. Nothing is said or implied as to whether the experience shall be prior or subsequent to graduation; and it is quite as evident that no regulation in this particular was intended. The Board may in its discretion require a term of experience as a condition of a "satisfactory diploma," but to shirk the responsibility of such ruling upon the plea that it is mandatory in the law itself is a proceeding as discreditable as it is unnecessary. The Board is an excellent prosecutor, but an exceedingly unreliable jurist. Under the "graduate" clause does the Board construe a "satisfactory diploma" to be a diploma from a "satisfactory" college or a diploma from a "satisfactory" graduate, or both. In other words, does the Board examine into the qualifications of the College or into those of the alumnus, or both college and alumnus? These questions are pertinent, since the Board has assumed to stand at various times on both sides of all three questions. The present position of the Board is practically that it may ignore all graduates in pharmacy, while to graduates in medicine the doors to pharmaceutical practice are ever wide open.

As a timid cataract is to thundering Niagara, so was Barrére, in the estimation of an eminent historian, to the ordinary liar, and so the monumental newspaper liar who circulated the clever fiction about the looting of Rosenfeld's drugstore, in Chicago, by a pack of Bohemian anarchists, to the notorious Frenchman. The story ran that the drugstore was sacked, and immediately the howling mob eagerly seized and drank everything in liquid form discoverable on the premises, to the great disturbance of their inner economy, and to the death of scores of the more insatiate. The sensation was so rich that in an instant it sped o'er the earth, and evoked heartiest praise for the vallant drugs, not only from the vulgar throng, but from the mighty captains of the press. That the wondrous story was only the picture of a reporter's demoniacal fancy never occurred to our editorial friends, not even to those of medical and pharmaceutical pretensions, who at least should have known that Bohemian superstition would as soon trifle with the contents of a drugstore as that the gentle anarchist would swallow an ignited bomb. We regret to see our august London contemporaries so grave in their treatment of the alleged episode, and particularly is the weighty effusion of the patriarch of American drug journals on the subject cause for tears. The continental Chicago liar responsible for this sad imposition upon innocent editors is, we may add, unquestionably an exotic.

The Ohio legislature has before it a very stringent bill regulating the sale of poisons in that State. We shall endeavor to present the full text of the measure in our forthcoming Special Edition as it relates to the proceedings of the Ohio Pharmaceutical Association. The bill, in brief, proposes to restrict the sale of poisons, *including patent and proprietary medicines containing poisons*, to registered pharmacists. It is indeed surprising that the public has not before perceived and taken precautions against the dangers aimed at by the pending bill, which should pass by a unanimous vote, though the nostrum interests may be expected to fight it at every point. Every druggist in Ohio and every reputable citizen should esteem it a duty to address their representatives in behalf of the bill.

Queries and Formulæ.

WE cordially invite queries for this department on any subject of pharmaceutical interest. Correspondents will give their name and address, but initials only will be printed when desired. It is especially requested that they furnish such information as they may already possess on the subject embraced in their queries. Queries cannot be answered by letter. Communications for this department should be addressed to Editor of the WESTERN DRUGGIST, 69 Dearborn Street, Chicago.

104. TWADDELL SCALE.—W. R. (Portland, Me.) asks to be informed what the expression "Tw.°" indicates. Tw. is the abbreviation for Twaddell's degrees. The Twaddell is an old degree scale largely used in England, principally among the dyers to indicate the strength of solutions of mordants, etc. It is an arbitrary standard, something similar to Baumé scale. The following rule is given for converting Tw. degrees into specific gravity: Multiply Twaddell's degrees by 5, add 1000 and divide by 1000. For example: To reduce 64° Tw.

$(64 \times 5) + 1000$ divided by $1000 = 1.320$ sp. gr.

105. AROMATIC TINCTURE.—A. C. Storms (Ravenna, Mo.) desires a formula for "an aromatic tincture." Were this to be interpreted literally it would be impossible to answer the query, as there are a score or more aromatic tinctures; but it is supposed that the formula for *Tinctura Aromatica* Ph. Ger. is desired, which is as follows:

Take of

Cinnamon	parts (oz.) 5
Ginger	" " 2
Galanga cloves, cardamom, of each	" " 1
Alcohol, diluted	or oz. w't 50

Make a tincture by maceration or displacement.

106. HALL'S SOLUTION OF STRYCHNINE.—Wm. Denner, Hosp. Steward, U. S. A. (Fort Bennett, Dak.)—The strength of this solution is one grain of strychnine to the fluid ounce The following is the formula:

Strychnine acetate	grain 1
Acid acetic	grs. 20
Alcohol	fl. drs. 2
Water	" 6
Red Saunders, sufficient	

Dissolve and filter.

The dose is stated to be 10 drops three times a day as a tonic in nervous exhaustion.

107. CATHARTIC ELIXIR.—H. Holden (Allegheny, Pa). The formula for the elixir in question is probably similar to that of the N. Y. & Br. Formulary, which is as follows:

Resin of podophyllum	grains 8
Resin of leptandra	" 16
Alcohol	fl. oz. ½
Fluid extract senna	" 2
Sodium potassium tartrate	av. oz. 2
Sodium bicarbonate	grs. 120
Syrup	fl. oz. 2
Comp. elixir taraxacum	" 4
Elixir glycyrrhiza sufficient to make	" 16

Dissolve the resins in the alcohol and add the solution to the other liquids previously mixed in which the salts have been dissolved. The product should not be filtered and should be shaken up before any portion is dispensed. Dose, about two fluid drachms.

There is nothing in this elixir to recommend it to favor therapeutically or pharmaceutically. For another formula see report of the Illinois Phar. Assoc. Com. on Unofficinal Formulas.

108. EXPLOSIVE PRESCRIPTION ALLEGED.—Wm. F. Hansen Lansing, Mich.) sends the following and inquires the cause of the explosion of the mixture, when dispensed in a bottle:

℞	Ext. Belladonnæ	fl. gtt. xxx
	Spirit æther nit.	℥iv
	Ext. Uvæ Ursi, fld	℥i
	Tinct. opii camph	℥i

M. et sig.

When the above is mixed in an open vessel (graduate) as it should be, a slight effervescence takes place due to the avidity with which the strong alcohol in the spirit takes up water, and the temperature which naturally results is heightened by the glycerin and the nitrous ether. The effervescence soon subsides, however, and no "explosion' need be feared, but the solution may safely be dispensed. in a tightly stoppered vial. All mixtures or solutions of this character should be thoroughly mixed in a mortar until reaction has ceased.

109. COLORED FIRES.—Clark, Weygant & Lohr (Estelline, Dak.) desiring to prepare for the "glorious Fourth," request formulas for Colored Fires. We take the following from our back numbers and make several new additions.

Red Fire.

Potassium chlor., shellac, each	parts 1
Strontium nitrate	" 3

Mix carefully.

Blue Fire.

Copper, ammonio-sulphate	parts 3
Potassium chlor., shellac, each	" 1

Mix carefully.

Green Fire (1).

Take of Potassium chlorate	ounces 2
Barium nitrate	" 7
Sulphur	" 2½

Mix according to art.

Green Fire (2).

Barium nitrate	3 parts
Potassium chlor., shellac, each	1 "

Mix carefully.

Boric acid may be substituted for the Barium nitrate.

Violet Fire.

Potassium chlorate	ounces 6
Calcium carbonate	" 2
Malachite powd	" 2
Sulphur	" 2

Mix.

Yellow Fire.

Sodium nitrate	parts 3
Potassium chlor., shellac, each	" 1

Mix carefully.

In the above the shellac should be in a coarse powder, obtained by grinding through a drug-mill.

TABLEAU LIGHTS.

The following are to be preferred for indoor use as not emitting suffocating vapors:

Red.

Shellac	oz 1	Strontium nitrate	oz. 3

Mix.

Or the following:

Lycopodium	oz. 1	Sacchar. lacti	oz. 4
Strontium nitrate	" 1	Potassium nitrate	" 12

Mix.

Green.

Barium nitrate	oz. 9	Potass. chlorate	oz. 4
Sacchar. lactis	" 3		

Mix.

Yellow.

Sodium oxalate.	oz. 2¼	Potass. nitrate.....	oz. 2¾
Shellac.....	" 2¼	" chlorate....	" 2¾

Mix.

Blue.

Shellac..... ...	oz. 2	Copper, am. sulph.	oz. 5
Potass. chlorate..	" 4		

Mix.

White.

Stearin.....	oz. 1	Potass. nitrate.....	oz. 4
Barium carb'nate	" 1	" chlorate....	" 12
Sacchar. lactis...	" 4		

Mix.

In preparing the above it is essential to observe: (1). That all the ingredients be dry. (2). That each ingredient be reduced to a moderately fine powder, separately. (3). That they be mixed very carefully with a spatula upon a piece of paper. (4). That the finished powders be preserved in small paper boxes or cylinders holding not more than four ounces each. When shellac and stearin are employed it has been recommended that they be first fused and the other ingredients be then incorporated in the fused mass; when cold, then to be powdered. See also formula for "Benzol Light Balls," this journal for last month, page 166.

110. SOLUTION CHLORIDE OF TIN.—Jerome Bros. (York, Neb.) desire a formula for the above used in dyeing. The solution of chloride of tin or stannous chloride is directed to be prepared as follows in the P. Br.: 1 oz. of tin is dissolved in 3 fluid ounces of hydrochloric acid and 1 of water, then sufficient water added to make 5 fluid ounces. This proportion gives about 768 grains of the chloride in 5 fluid ounces, from which the proportion may be calculated for its preparation from the crystals.

111. THAPSIA RESIN.—T. W. (Chicago) desires to know the therapeutic action of thapsia resin in plasters. The extract obtained from the root of Thapsia garganica has been used as a counter-irritant in meningitis, in pleurisy, pericarditis, rarely in peritonitis, synoritis and allied inflammations. It has, when applied to the skin, produced purging and excessive urination, and its use has not been favorably regarded on the Continent, but considered similar to croton oil, euphorbium, mezereum, etc. It is usually combined with lead plaster.

112. INCOMPATIBLE MIXTURE.—G. H. Palmer (Bellefontaine, O.) sends the following formula and asks what may be added to the mixture to preserve an unctuous consistence.

For Sheep Hoof-rot.

Take of

Butter of Antimony.....	of each
Sulphuric acid.....	equal parts
Venice turpentine	

Vinegar (pure cider) sufficient to make a mixture the consistency of molasses, and prevent it from burning up.

We would recommend that the turpentine be mixed with its weight or more of petrolatum and the solution of perchloride of antimony (butter) then be incorporated. The sulphuric acid first diluted with an equal bulk of cider and allowed to have become cold is then gradually added under constant stirring. With this modification in the formula and precautions in manipulation it may be possible to obtain a homogeneous mixture. The petrolatum is the best substance we know of for the above purpose.

113. TAKING SPECIFIC GRAV.—C. L. H. (DuBois, Pa.) inquires how to find the specific gravity of Galenic preparations when a standard preparation is not available for its determination. As has already been pointed out in this journal the specific gravity of many simple Galenic preparations may be estimated from that of the menstruum or solvent employed. Whenever the quantity of matter extracted or held in solution is not so great as to cause any sensible increase in the weight, it follows that the density and hence the specific gravity of the preparation must be the same as that of the original menstruum or solvent, thus the sp. gr. of all the medicated waters of the U. S. P. may be said to be the same as that of water, 1, because the quantity of oil in solution is so comparatively small. With the liquors, however, the quantity of dissolved matter is so much greater as a rule that with a few exceptions the solvent gives no indication of the sp. gr. of the preparation. The exceptions to be noted are the preparations of arsenic chiefly; their sp. gr. being approximately that of water, or 1.

With preparations like syrups it is, of course, out of the question to determine the sp. gr. except by taking the relative weight of an equal bulk of a standard specimen compared to an equal bulk of water. In the absence of proper apparatus the specific gravity of a syrup (of unknown strength) may be approximated by weighing the contents of a bottle containing for example, a pint. Thus if a pint of syrup weighs 9,000 grains the sp. gr. is obtained by dividing by the weight of 1 pint of water, thus:

7,300:9,000::1:1.233 sp. gr. But a standard preparation should invariably be used.

114. PRESCRIPTION QUERY.—J. A. S. (Watson, Ill.) asks why in dispensing the following prescription the tincture of opium separated and floated on the top of the mixture upon standing:

℞	Potassii acetatis.....	ʒv
	Ext. buchu fluid.	f ʒiv
	Tinctura opii.....	gtt. xl
	Aquæ cinnamomi q.s. ft..... ...	fl. ʒii
	Misce.	

Whenever a separation of this kind presents itself the first observation to be made is to ascertain the character of the liquid mixture. In this instance there is no ingredient present in the mixture which would react with another and any incompatibility must therefore be attributed to insolubility of one substance or another. The solution is an aqueous one having about 15 per cent. of alcohol contained in the fluid extract of buchu, and in this liquid both the potassium acetate and opium are easily soluble. The insoluble matter must then come from the buchu which is easily shown to be the case when it is remembered that the active principles of buchu are not soluble in aqueous mixtures containing only 15 per cent. of alcohol. The precipitate, or as it should be referred to here, the insoluble floating substance, is the oleoresin of buchu accompanied with some alcohol

115. GOLD PAINT.—H. E. A. (Gale, Ia.): We do not know composition of Marsching's "gold paint," but the following process is recommended in "Workshop Receipts": The article to be gilded is first given an even and moderate coating of gold size, which, after having dried sufficiently to be sticky, is dusted over with gold powder from a sheet of writing-paper by means of a stout and soft sable brush. The gold powder is obtained from dealers in gold leaf. The size is made as follows:

Ammoniac (gum)	ounces	8
Linseed oil, boiled.....	"	4
Oil turpentine.....	"	6

Melt the ammoniac by gentle heat, then add the oil, and lastly, the turpentine.

There are many so-called gold paints, but it seems rea-

sonable that gold can only be put on in the manner above described.

116. ARTIFICIAL GOLD BRONZE is made as follows: A mixture of copper and hydrochlorate of ammonia is well mixed with vanadinate of ammonia and carefully heated The precipitate which forms is of a beautiful and rich color, and, when intimately mixed with a solution of gum or varnish, is said to rival the finest gold bronze. (W. D., 40, '85.)

117. CLEANING COMPOUNDS FOR METALS.—M. Bunn (Kankakee, Ill.) desires a formula for a good cleaning compound, preferably non-poisonous, for copper urns, brass railings, etc.; also a formula for German putz pomade. The following is the method employed at all the U. S. arsenals for cleaning brass, and is said to be the best in use. Though poisonous ingredients are used, this cannot be objectionable, but it is only adapted for articles which admit of being immersed in a mixture of 2 parts of common nitric acid and 1 part of sulphuric acid, contained in a stone jar. The articles, after being dipped in this mixture, are thoroughly washed with water and then rubbed with dry sawdust. A solution of oxalic acid is used in the same way, smooth surfaces being rubbed with prepared chalk or equal parts of the latter (or whiting) and oxalic acid, made into a paste with water, may be applied. A great many other processes are employed, such as rubbing with rotten stone and sweet oil, and then with whiting; this is particularly effective with copper articles.

119. GERMAN PUTZ POMADE is substantially the above. The formula was published in this journal, page 45, '85. Another contains, also, pumice stone, and is as follows:

Take

Pumice stone powder	ounces	2
Rotten stone	"	2
Iron subcarbonate	"	4

Olive oil or oleic acid sufficient to make a paste. Perfume with nitrobenzole.

The dry ingredients must be in impalpable powder.

[A number of queries will have to lie over until next month.—ED. W. D.]

FORMULAS WANTED.

SAWYER'S HEDACHE CURE.—C. J. S. (Coldwater, Mich.).

PILLOW INHALER LIQUID—D. (Richmond)—prepared by a Philadelphia firm.

HANSEN'S MAGIC CORN SALVE.—MAX Gessler (Milwaukee, Wis.).

ACID SOLUTION HYPOPHOSPHITES.—J. S. Brubaker (Vinton, Ia.).

PEACOCK'S BROMIDES.—C. W. D. (St. Louis, Mo. Each fluidram represents fifteen grains of the compound c. p. bromides of potassium, sodium, calcium ammonium and lithium. The proportions are desired.

KAVA AS A LOCAL ANÆSTHETIC.

Lewin (Deutsche Medizinae Zeitung, Feb. 1, 1886) finds that kava has local anæsthetic properties similar to those of cocaine.

COCAINE BENZOATE is said by Dr. A. Bignon to be superperior (La Cronica Médica) to any other salt of cocaine in anæsthetic and antiseptic effects, as well as solubility. Its effects are of longer duration.

PEREIRINE IN INTERMITTENT FEVER.

Dr. Freire (Bull Gén de Therap., April 15, 1886) finds that pereirine, the alkaloid of Pereira brava, is superior in many cases of malaria to quinine or arsenic.

NOTES TO THE EDITOR.

THE CALABAR TREATMENT.—For some time an alleged professional journal of this city has contained an advertisement concerning the above treatment "now recognized by physicians of every creed as an UNEXPECTED SUCCESS in the treatment of very prevalent troubles, resulting from the lack of nerve tone of the organs of digestion, etc..... ..... They meet the popular demand for a change to a more reliable and acceptable remedy. Progressive pharmacy requires improved means. The Calabar grains are a complete and attractive novelty in material, entirely unique in form, style and dress, and are so positively efficacious as to give universal satisfaction, etc." After the virtues of the "grains" have been thus modestly described, it is quite refreshing to read in conclusion "that they are not on the market by the usual advertising plan."

Now I should like to inquire where this "unexpected success" comes from, "so attractive a novelty in material and so unique in form, etc." Can it be possible that the Calabarians have secrets in materia medica of which we know nothing, or that their pharmaceutical skill is of such superior order that it cannot be equaled in this country with all its colleges?—A. E. B,. St. Louis.

[This so called "nature's own reliable remedy" was described in this journal, page 261 '84. The "grains" are about the size of a three-grain ovoid pill, and consist of aloes and oil of black pepper, They are not produced in Calabar, but, until quite recently, in Ohio, from whence, we presume in order to preserve the "uniqueness" of the grains, and as one of the "improved means required by progressive pharmacy," its manufacture was removed to Chicago, where it is superintended by a gentleman whose name appears in capital letters in the membership of the A. P. A. As to the "unexpected success" the treatment has met with it is difficult to determine whether it be due to the string which each grain contains, as one of the results of improved methods of manufacture, or whether it be due to the possibility of getting the physician on a string by prescribing the grains upon cipher prescriptions.—ED. W. D.]

REDUCING THE DOSE.—In answer to query in last issue, you unhesitatingly justify a druggist in reducing the dose of quinine in a prescription from 10 grains three times a day to a little over a grain. I do not agree with you and would like to have an expreession from druggists on the point. E. E. G.

HUDSON, WIS.

The query referred to is the second among "Notes to the Editor," page 156, entitled "Prescription Query." In the original copy of the prescription, the ounce symbols were not used, but ditto marks employed for the quinine. It was chiefly for this reason that it was so strongly recommended that the quantity be reduced. But it was done advisedly from all other sides of the question, which are:

1st. The quantity of quinine sulphate was at least five times more than the mixture could dissolve, and thus, under the most favorable conditions, the last portion remaining in the bottle would contain a dangerous proportion of quinine.

2d. That no one but a very ignorant physician would prescribe quinine in 10-grain doses, taken three times daily as a tonic, and for an extended period as the quantity and character of the mixture indicate.

3d. We doubt that any one would prescribe two troy ounces of quinine in a twelve-ounce mixture, since it would make the preparation too costly.

It is the pharmacist's privilege and also his plain duty to correct any palpable errors committed by the physician amid the exciting scenes at the sick bed, by accident, or

even consciously through ignorance. In the prescription under consideration, we feel satisfied that it would be culpable neglect not to disobey such a mandate, and that responsibility would attach to a dispenser, who from a phantom dread of "substitution" would let his plain duty go unheeded.—[ED. W. D.]

ATHLOPHOROS.—Roger Williams (Prescott, Kan.) desires the formula for the above, and incloses a circular descriptive of Searle's "great rheumatic and neuralgia cure." In this circular the two diseases of rheumatism and neuralgia are treated in a manner which may be inferred from the following: "A professor in a medical college, when called upon to give a definition of these two diseases, said: 'Put your hand in a vise, turn the screw until the pain is all you can possibly bear, and that's rheumatism; turn the screw once more and that's neuralgia—and, gentlemen, the medical profession knows no cure for either.'"

But the great Searle has risen far above the medical or any other profession; he has discovered a remedy which sets the twin diseases at defiance. How? By carrying strength to the body to help it overcome the inroads of the disease, as we presume is implied in the term "Athlophorus." No; but by means of a deadly opiate luring its victim on to destruction. This is the grand discovery for which the profession has sought in vain, and the morphine-loaded Athlophorus is the article which the great Searle has been receiving recommendations for by so many of the clergy. The fact that one of the latter, who is the most unostentatious in his praise of the contraband goods, is also a Searle may possibly account for part of the religious enthusiasm. In this journal (page 328) for 1885 the formula for Athlophorus, taken from the New Idea, is published. It is as follows:

Morphine sulph	grains	2
Fl. ext. colchicum seed	fl. dr.	1
Fl. ext. guaiac resin	" "	1
Potassium acetate, potassium salicylate, each	grains	60
Alcohol diluted	fl. dr.	4
Syrup squill sufficient	fl. oz.	6

Make a solution by applying gentle heat. The dose is two teaspoonfuls every three hours until relieved.

THE RUSSIAN NURSE'S RECIPE.—Inclosed find another "free" remedy that looks to me suspiciously like that old "chestnut," Hallsh Sativa, or another swindle that may have originated in the fertile imagination of the "Rev.(?) Jos. Inman." However, the "proprietor" modestly offers to send the ingredients for 75 cents.

℞ The Russian Nurse's Recipe.

Radix Gentiana	oz. 1
Brechrs Folia	oz. 1
Cimicifuga Racemosa	oz. 1
Erigeron Strigosum	dr. 6
Labdanum Cortex	dr. 5
Eupatorium, Podophyllum Radix } aa	dr. 4
Fructus Juniperi	oz. 3

Directions.

Put the contents of this package into a cotton bag and boil in two quarts of water until the entire strength is exhausted. While warm add one pint of alcohol, cork, and set in a cool place. Take tablespoonful three times daily, just before each meal.

If any of the readers of the WESTERN DRUGGIST can give any information as to Brechrs Folia I should be pleased to hear from them. Perhaps they are a species of flowers recently introduced, one of the "flowers that bloom in the spring"—probably from Japan. Am unable at present to discover where this scheme originated. We receive a number of this order, but this is a new one to us. If you can, to satisfy my curiosity, please let us know who is the "proprietor" of this "Russian Nurse's Recipe."

P. L. HENRY.

ARCOLA, ILL., May 13.

[Your diagnosis of the case is undoubtedly correct except possibly that "Brech's Folia" is indigenous to the land of the moon. We refer the query to our readers. ED. W. D.]

A NEW COLLODION.—This collodion may be used in all cases of simple or contused wounds. Its use is indicated also in neuralgias, acute and chronic rheumatism. The painful parts may be painted with it every twenty-four hours, or, in extreme cases, every six hours. If linen or silk be covered on one side with it, a rival of ichthyocolla plaster results. It is prepared as follows:

Mastic	grams 3
Dry balsam of Peru	" 1
Narcotine	" 1

Powder each article separately and add five grams of chloroform. Agitate from time to time, and set aside to dissolve.—Orosi, L'Union Pharmaceutique, May, 1886.

PREPARATIONS OF IODOL.

(From the British and Colonial Druggist.)

IODOL-TEREBENE FOR WOUNDS, ULCERS, ETC.

℞ Terebene pur.	fl. ounce	1
Iodol	grains	10

Dissolve the iodol in the terebene and preserve in well-stoppered bottle of "non-actinic" glass, or take other means to exclude the light from the bottle when not required for immediate use. Employed either for "spraying," suppurating wounds, etc., or by soaking bandages, lint, etc., with the mixture, as a surgical dressing generally, this preparation is extremely valuable as a non-irritant antiseptic, preventing gangrene and promoting healthy granulation. It surpasses in efficacy the usual mixtures containing iodine or iodoform, and has neither the irritating property nor the unpleasant smell of the latter.

IODOL TOOTH STOPPING.

℞ Iodol	grs.	20
Menthol	"	20
Camphor	"	5
Mastic	"	60

Ether, alcohol, of each sufficient.

Make a mixture of three parts of ether and one of alcohol, and with a little of this moisten the mastic previously powdered, and digest in a warm place until a thick pasty solution is produced. Then melt the other three ingredients, mix well, and allow them to cool somewhat. Finally mix the whole and adjust it to the right consistence by cautious evaporation, or by addition of the ether and alcohol. Apply to a hollow tooth on a morsel of lint.

IODOL ANTISEPTIC TOOTH POWDER.

℞ Iodol	grs.	8
Oil of rose	m.	4
" cloves	"	3
Chalk, prep.	ounces	2

Alcohol sufficient.

Dissolve the first three ingredients in a little alcohol, and mix the solution with the chalk, grinding all together in mortar. Color, if desired. Used as tooth-powder in ordinary manner, it sweetens the breath and preserves teeth from decay.

TO PREVENT PRECIPITATION OF PYROPHOSPHATE OF iron in dilute phosphoric acid, Rother (Drug Circ., p. 99, '86,) recommends the addition of potassium citrate, a formula

for a concentrated solution to be kept on hand for dispensing purposes, as follows:

Iron pyrophosphate, grains	120
Potassium citrate "	120
Acid phosphoric, U. S., "	193
Water sufficient to make fl oz	1

In the acid, diluted with water, dissolve the potassium citrate, and in this dissolve the iron pyrophosphate by applying heat. When cool, decant the solution, treat the residue with a little water and add to the first solution; filter if necessary.

A solution of iron pyrophosphate may be kept for a long time by the addition of glycerin. For example, two drachms of the iron phosphate is dissolved in five drachms of water, filtered, and three drachms of glycerin or sufficient to make one fluid ounce, is added.

SACHET PERFUMES.

(From the Chemist and Druggist.)

Frangipani Sachet.

Powd. orris....3 lbs.	Ol. santal....40 minims
Ground vitivert....¼ "	" bergamotte.60 "
" santal....¼ "	" French ger.60 "
" vanilla beans .¼ "	Otto rose ....30 "
" Tonquin " ...2 oz.	Extract musk.. 1 oz.
Ol. neroli....60 minims.	" civet .. ½ "

Mix well.

Heliotrope Sachet.

Powd. orris....2½ lbs.	Extract musk....1½ oz.
Ground rose leaves..1 "	" civet.... ½ "
" vanilla beans.6 oz.	Ol. almonds....7 min.
Ground Tonqua beans..4 oz.	

Mix.

Lavender Sachet.

Ground lavender flowers	2 lbs
Powd. benzoin	2 oz
Ol. French lavender	1 "
Extract musk	1 "

Mix.

Rose Sachet.

Powd. orris.... ½ lb.	Extract civet....½ oz
Ground rose leaves .. 1½ "	Ol. Fr. geranium..30 min
Ground santal wood.. 4 oz.	Otto rose....20 min
Ground patchouly....2 "	

Mix.

Jockey Club Sachet.

Powd. orris....3 lbs.	Otto rose ....30 minims.
Ground santal wood...½ "	Extract musk...2 oz.
Ol. bergamotte....1 oz.	" civet ...1 "

Mix.

Ess. Bouquet Sachet.

Powd. orris....4 lbs.	Ess. lemon.... 1 oz.
Ground cassie flor ....1 "	Ol. Fr. geranium..60 min.
" rose leaves....1 "	Extract musk.... 2 oz.
" vanilla beans..3 oz.	" ambergris.½ "
Ess. bergamotte....1 "	

Patchouly Sachet.

Ground patchouly leaves	2 lbs.
Powd. orris	½ "
Ol. patchouly	30 minims.
" French geranium	30 "

Millefleur Sachet.

Ground lav. flowers.... 1 lb.	Ol. bergamotte....½ oz.
" cassie " .... 1 "	Extract civet....½ "
" rose.... 1 "	" musk....½ "
Powd. orris.... 2 "	Ground cloves.... 2 "
" benzoin....¼ "	" cinnamon.. 2 "
Ground Tonqua beans.¼ "	Ol. Fr. geranium...30 min.
" vanilla beans.. 3 oz.	" patchouly ....10 "
" santal wood...½ lb.	

Opoponax Sachet.

Powd. orris....3 lbs.	Ol. citron.... 30 min.
Ground rose leaves....1 "	" bergamotte....120 "
" cassie flowers.1 "	" patchouly .... 30 "
" Tonqua....¼ "	" Fr. geranium.. 60 "
Ground vanilla .... 3 oz.	Extract civet.... ½ oz.
" musk pods... 1 "	Otto rose.... 5 min.
Ol. citronella....16 min.	

Mix.

Verbena Sachet.

Powd. orris	3 lbs.
Ol. bergamotte	120 min.
" verbena	180 "
" French geranium	30 "
Ess. musk	½ oz.

Pot Pourri.

Ground lav. flowers..1 lb.	Ol. santal.... 60 min
Powd. orris....1 "	" Fr. geranium. 60 "
Ground rose leaves...1 "	" bergamotte...120 "
" cloves ....¼ "	Ess. lemon....120 "
" cinnamon...¼ "	Otto rose.... 10 "
" benzoin....¼ "	Ground van. beans 3 oz.
" pimento ....¼ "	" musk pods 1 "
" table salt....½ "	Ext. ambergris... ½ "
Ol. lav. ang....60 min.	

Ylang-Ylang Sachet.

Ground rose leaves.. 1 lb.	Ol. bergamotte...120 min.
" cassie.... 1 "	" Fr. geranium. 60 "
" pimento ....¼ "	" ylang-ylang ..120 "
" Tonq. beans. 2 oz.	Otto rose.... 20 "
" vanilla " . 2 "	Ext. musk .... 1 oz.
Powd. orris.... 3 lbs.	" civet.... ½ "
Ol. pimento....60 min.	Benzoin (ground). 1 min.

Mix.

Violet Sachet.

Powd. orris	3 lbs.
Ess. bergamotte	30 min.
Ol. almonds	20 "
Otto rose	20 "
Extract musk	1 oz.

Mix.

New-Mown Hay Sachet.

Powd. orris....4 lbs.	Ol. Fr. geranium..120 min.
Ground Tonq. beans.½ "	Otto rose.... 30 "
" vanilla " .¼ "	Ol. bergamotte... 60 "
Ol. almonds.. ....10 min.	Extract musk ...1½ oz.

Mix.

Sweet-Brier Sachet.

Powd. orris.... 4 lbs.	Ol. bergamotte....40 min.
Ground santal wood 1 "	Ess. lemon....60 "
Ol. Fr. geranium.... 30 min.	Otto rose....30 "
" neroli .... 55 "	Extract ambergris. 1 oz.
" verbena.... ...120 "	" musk....½ "

Rondeletia Sachet.

Powd. orris.... 3 lbs.	Ol. lavender.. .... 2 drs.
Ground lav. flo'rs 1½ "	Otto rose....20 min.
Ol. Fr. geranium. 30 min.	Ground musk pods 1 oz.
" bergamotte...120 "	Extract ambergris. 1 "
" cloves.. .... 120 "	Ground cloves....½ "

SCULLY'S TRIPLE EXTRACT OF BELFAST GINGER ALE.—The following is said to represent very closely the original:

Capsicum, in coarse powder	oz. 4
Water, about.	pints 3

Boil for three hours, occasionally replacing the water as it evaporates. Filter, and concentrate to the consistency of a thin extract. Then add:

Soluble essence of ginger	oz. 4
Dilute alcohol	" 3½
Fl. ex. vanilla	" 1
Oil of lemon	drops 10
Caramel	drs. 4

Filter to make one half-pint.

This preparation will mix with water and acid in all proportions without precipitation, but strong alcohol throws down the caramel which it contains.

REMEDY FOR CORNS.

Phosphorus	part 1
Oil of sesame	parts 200
Yellow wax	" 30

The phosphorus is dissolved in the oil by means of a

water bath and occasional agitation. Add the oil to the wax previously melted and partly cooled off. The mixture while still fluid is poured into tubes and sealed. Each of these tubes is packed in a box together with ten corn-plasters. The remedy is pressed from the tube, to fill the central space left when the corn-plaster is attached. It may be used upon arising.

ANTISEPTIC MOUTH-WASH.

Oil peppermint	parts	20
" staranise	"	8
" anise	"	8
" Cinnamon, Ceyl	"	2
" rose	"	2
" cloves	"	1
Chloroform	"	40
Tinct. of ambergris (1 in 5)	"	4
" vanilla (1 in 5)	"	20
" orris rt. (1 in 5)	"	42
" cedar (1 in 8)	"	2,000
"Aseptic" acid	"	30

This compound is said to be very efficient and exceedingly agreeable. The "aseptic" acid is composed of 5 parts of borax, 3 parts of peroxide of hydrogen and 92 parts of water. It arrests putrefaction and destroys malodorous effluvia. It is said to be specially useful as a mouth-wash in mercurial salivation and atonic ulcers of the gums.—Adolf Vomacka, in Neue Ideen.

TO REMOVE GYPSUM DRESSINGS.—Dr. G. Krosz (Deutsch Med. Zeitung) says that the removal is greatly facilitated by first scraping a groove with a knife, and then dropping along it a solution of caustic soda. In a few minutes the plaster becomes pulpy along this line, and the bandage can then easily be cut through. If two lateral grooves be made instead of one, a lid can be cut out of the bandage, the leg can be lifted up for the necessary inspection and returned, the lid being reapplied and retained with a roller bandage. By this method, also, it is a very easy matter to cut any fenestra that may be needed.

MODIFICATION OF RIVIERE'S MIXTURE.— Dr. Anatole Geneuil (Bull. Gén. de Thérap.) states that Riviére's mixture is an excellent remedy in vomiting. It has not yet gone out of fashion among practitioners. In vomiting due to stomach, liver or bowel pains he uses the following modification of this mixture:

No. 1.

℞ Potass. bicarb. ..... 4 grams (ʒi)
Morphin. chlorhydrat. ..... 25 milligrams (gr. ⅜)
Aquæ fontan. ..... 95 grams (ʒiii)
Aquæ lauroceras. ..... 5 grams (ʒimxv)
Ether. sulphur. ..... 50 centigrams (mx)
Syrup aurant flo ..... 30 grams (ʒvi)
M.

No. 2.

Acid citric ..... 4 grams (ʒi)
Morphin. chlorhydrat. ..... 25 milligrams (gr. ⅜)
Aquæ fontan. ..... 95 grams (ʒiii)
Aquæ lauroceras. ..... 5 grams (ʒimxv)
Ether sulphur. ..... 50 centigrams (mx)
Syr. acid citric. et citron. ..... 30 grams (ʒvi)
M.

In less violent and nervous cases the morphine is replaced by codeine. A tablespoonful of each mixture is to be taken alternately every five minutes until the pain and vomiting cease.

COUGH SYRUPS (ROOSEVELT HOSPITAL).

Mixture No. 1.

℞ Sulph. morphine ..... grains 1-16
Chloride ammon ..... " 2½
Syrup tolu ..... m 15
Water, s. q. to ..... drams 2

Mixture No. 2.

℞ Fl. ext. wild cherry bark ..... m 5 5-8
Sol. cyanid. potass. .....
Sol. sulph. morphine (16 grains to oz.) ..... aa m 1
Simple syrup, s. q. to ..... drams 2
M. Dose, 2 drams.

Codeine Mixture.

℞ Codeine ..... grains 1-6
Dil. phosphoric acid ..... m 5
Simple syrup, s. q. to ..... drams 1
M. Dose, half a dram.

Ipecac Mixture.

℞ Wine of ipecac ..... m 5
Muriate of ammon ..... gr. 5
Camphor water, s. q. to ..... oz. ½
M. Dose, 4 drams.

Antimony Mixture.

℞ Tartrat. antim. and potass. ..... gr. 1-24
Sulph. morph. ..... gr. 1-26
Syrup wild cherry bark, s. q ..... dr. 1
M. Dose, 1 dram.

Sanguinaria Mixture.

℞ Tinct. sanguinaria ..... m 5
Carbon. ammon ..... grs. 5
Syrup wild cherry bark, s. q. ..... dr. 1
M. Dose, 1 dram.

Children's Mixture.

℞ Paregoric ..... m 10
Muriate ammon ..... grs. 5
Syrup squills ..... m 10
Syrup tolu, s. q. to ..... dr. 1
M. Dose, 1 dram.

Hydrobromic Mixture.

℞ Dil. hydrobromic acid (10 per cent.). }
Spirits chloroform, of each ..... } ..... m 4
Syrup squills ..... m 8
Paregoric, s. q. to ..... dr. 2

Bromide and Hyoscyamus Mixture.

℞ Bromide potass. ..... grs. 20
Tinct. hyoscyam. ..... " 30
Camphor mixt., s. q. ..... drs. 4
M. Dose, 4 drams.

Squills Mixture.

℞ Tinct. squills ..... m 5
Wine of ipecac ..... m 4
Syrup of tolu ..... m 20
Water, s. q. ..... dr. 1
M. Dose, 1 dram for child one year old.

Chloride of Ammon. Mixture.

℞ Chloride ammon ..... grs. 2
Syrup wild cherry bark ..... " 30
Water, s. q. to ..... dr. 1
M. Dose, 1 dram for child one year old.

Cough Mixture (Cook County Hospital, Chicago).

Morphia sulph., 1 grain; tr. aconite, 16 drops; nitrate of potassium, 1 dram; acid hydrobrom. dil., 16 drops; syrup of ipecac, 2 drams; syrup of squills, 6 drams; water, q. s., ad., 2 ounces. Dose, a teaspoonful every three or four hours.

LYONS' KATHAIRON.

A Philadelphia correspondent sends the following formula to the Drug Circular, which he states resembles the original very closely:

℞ Alcohol (95 per cent.) ..... fl. oz. 12
Ol. ricinis ..... " 4
Tr. canthar. ..... " ½
Acid, tannic ..... grains 30
Oils citronella, bergamot, cloves, of each fl. dr. ½
Oil lavend. flo., rosemary, of each ..... " 1
M. Sec. art. Filter.

THERAPEUTIC NOTES.

ANTIMONY IN SCALY SKIN ERUPTION.—Dr. Jas. Mason (Glasgow Medical Journal) says that in scaly skin diseases antimony acts like a charm. Five minim doses thrice daily of wine of antimony often produce great improvement in a week's time.

CRAB'S EYES IN CHOLERA INFANTUM.—Dr. W. J. Simon (New York Medical Journal) has good results in cholera infantum from the following:

℞ Powdered crab's eyes..... 15 grains.
Sodium bicarbonate..... 8 "
Magnesia..... 30 "
Columbo..... 4½ "
Nux vomica..... 1½ "

Divide into twenty powders, one to be taken twice a day, before eating. If the child refuses to take the powders, he orders:

℞ Tincture of cinchona, " " rhubarb, " " calumba, each..... 75 grains
" " nux vomica .. .. 8 "

Dose, five to ten drops, before each meal. In addition, the diet is to be regulated.

HYDRANGEA IN GRAVEL.—Dr. B. Edson (Medical Journal) has had very good results from drachm doses of hydrangea fluid extract in gravel.

SPIGELIA IN ROUND WORMS.—Neligan (Dublin Medical Journal) recommends the following in round worms: ℞—Pulv. spigeliæ, grs. x; pulv. stanni, ʒii.; Syr. zingiberis ʒi.; Mellis q. s. This makes a paste to be taken at night and followed in the morning by a purge.

PHELLANDRIUM IN ASTHMA.—S. Simon (Courier Médical) recommends the following in asthma and chronic bronchitis:

℞ Iodoform..... 1½ grains.
Lycopodium..... 6 "
Ex. Phellandrium..... 15 "

M and et. ft. pil. No. X. S. Three increased to five daily.

LITHIUM SALICYLATE IN OBSTINATE RHEUMATISM.—From experiments in the Paris hospitals it appears that lithium salicylate is of decided value in obstinate acute rheumatism. The dose given is about half that of sodium salicylate.

NAPHTHOL IN EXCESSIVE PERSPIRATION.—The following (Journal de Médecine et de Chirurgie) has been found of value in excessive sweating of the hands or arm pit:

Napthol..... 5 parts.
Glycerin..... 10 "
Starch..... 100 "

To be used as a lotion, after which the parts are dusted with the following powder:

Powdered naphthol..... 2 parts.
Starch..... 100 "

The same procedure can be used in the case of foot perspiration, a pledget saturated with the powder being placed between the toes.

ETHOXYCAFFEINE IN SICK HEADACHE.—Dujardin-Beaumetz (Bull. Gén. de Therap.) finds that three grain and a half doses of ethoxy caffeine often stop the development of sick headache. The muriate is least apt to irritate the stomach.

CHAMOMILE IN DIARRHŒA FROM TEETHING.—Dr. Elliott (Obstetrical Gazette) has had good results from infusion of chamomile in infantile diarrhœa connected with dentition and in which the stools are many in number, green in color, or are slimy and streaked with blood, and accompanied by pain and cramp. He gives ʒss.—ʒj of the infusion to a child under one year, and double the quantity to a child over that age, giving it three times a day or oftener, according to the severity of the attack.

JAUNDICE FROM MALARIA.—Dr. Bartholow (Medical Bulletin) recommends:

℞ Acidi arseniosi.....gr. j.
Ferri sulphatis.....gr. xx.
Manganesii sulphatis.....gr. xx.
Quinia sulphatis.....gr. xl.

M. Ft. pilulæ No. xl.
Sig.—Two pills three times a day.

FORMULÆ FOR IRRITATIVE DIARRHŒA.—Dr. E. H. Bartley (New York Medical Journal) recommends the following formulæ in the irritative diarrhœa of children:

℞ Ol. Resin..... 4 fluid ounces.
Bismuth subnit..... 2 "
Magnes carbon..... 1 "
Sacchar. alb..... 2 "
Ol. Anis vel ol menth. pip ..... 6 minims

M. S. ʒi. for a child six months to a year or

℞ Vin. Pepsin..... 1½ fluid ounces.
Bismuth subnit..... 2 drachms.
Glycerin..... 4 "

M. S. ʒi a dose.

CINCHONA IN SPRUE.—Dr. Dewees (Medical Bulletin) especially recommends the following:

℞ Cupri. sulph .....grs. x.
Pulv. cinchon. opt ..... ʒii.
Pulv. gum arab..... ʒi.
Mel. commun..... ʒii.
Aq. fontan..... ʒiii.

M. S. The ulcerations to be touched twice a day with it.

ZINC SULPHATE IN SORE NIPPLES.—Dr. E. Thomas (New England Medical Monthly) recommends the following in sore nipples:

℞ Zinc sulph.....grs. xv
Lactic acid.....grs. xij
Glycerin..... ʒij
Starch..... ʒiij

M. Apply with a camel's hair brush between nursings, being careful to wash it off before putting the child to the breast.

CALCINED MAGNESIA IN WARTS.—Dr. Fonssagrives (Journal de Médecine et de Chirurgie pratique) says that calcined magnesia given in five grain doses thrice daily for a month causes warts to dry up and disappear.

ALUM IN WHOOPING COUGH.—Dr. Cullemonce (British Medical Journal) has had good results in whooping cough from:

℞ Alum sulph..... 2 grains
Tinct Bellad..... 3 minims
Tinct Cinch. co..... 12 "
Syr. Aurant..... ½ drachm
Aquæ q. s. ad..... 2 "

M. S. Thrice daily for a child of four. The mixture has a rough bitter-sweet taste, and is much relished by children.

PILOCARPINE IN REMITTENT FEVER.—Dr. George A. Harris (British Medical Journal) has had good results in severe remittent fever from philocarpine nitrate. It has also proven useful as a prophylactic against the return of the chill in ague.

CREOSOTE IN CHOLERA MORBUS.—Hartshorne (Medical Record) recommends the following in cholera morbus:

℞ Chloroform.
Tinct. opii.
Spts. camph.
Spts. ammon. aromat.....aa f. ʒjss.
Creasot .....gtt. iij.
Olei. cinnamomi.....gtt. vij.
Spts. vini gall.....f. ʒij.

M. Sig.—Gtt. x. to xx. in ice-water every five minutes.

Progress of Pharmacy.

DANGERS OF FIRE FROM NITRIC ACID.—Lechartier (Archives de Pharmacie, May 5, 1886) shows that carboys containing strong nitric acid, surrounded by straw or other organic material and exposed to sunlight, are likely to be a cause of unsuspected conflagrations.

GRANULATED MAGNESIUM CITRATE.—Three samples examined by A. H. Cohn (Am. Journ. Phar., p. 235, '86) were found to contain 10, 20 and 30 per cent. (approx.) of tartaric acid. Upon being tested with barium chloride 7.07 and .699 per cent. of sulphuric acid were found in samples one and two respectively.

BORIC ACID is powdered, according to Gernaux (Mon. Phar. Belg.) by dissolving the acid to saturation in boiling water and rapidly agitating the solution until quite cold. The acid is precipitated in the form of microscopic crystals which are, while yet moist, powdered in a mortar.

Another method consists in pouring the boiling hot concentrated solution into a large volume of cold water.

THE DETECTION OF ALUM IN BREAD (Cohen Centr. Bl. Med. Wissch.) is accomplished as follows: A piece of gelatin (free from alum) is immersed in a cold infusion of the suspected bread for twenty-four hours. The gelatin upon being washed off with distilled water to which has been added a little of a 10 per cent. solution of logwood tincture and ammonium carbonate, should not show a blue coloration if the bread is free from alum.

HYDRONAPHTHOL, the substance recently recommended by Dr. Fowler as an antiseptic is, according to E. Merck (Pharm. Zeitung) identical with beta (*B*) naphthol already well known. It behaved similarly to the latter when treated with boiling water and when inhaled produced the same irritation of the throat. The melting point was determined to be the same as that of *beta*-naphthol, namely: between 120 to 122° C.

ATROPINE SANTONATE, a compound of atropine and santonic acid, is proposed by Bombelon (Phar. Zeit. p. 280, '86) as the best salt of the alkaloid for ophthalmic use. It is described as a white, amorphous, non-hygroscopic powder sparingly soluble in cold water; one drop of a solution (1x2,000) possesses marked mydriatic action, the dilation of the pupil disappearing in from twelve to twenty-four hours. The solution is perfectly non-irritating and not liable to fungoid growth but is recommended to be kept in vials of yellow glass to prevent the formation of photosantonic acid by exclusion of sunlight.

THE FOLLOWING TESTS FOR LANOLIN are recommended by Messrs. Jaffé and Darmstaedter, (Schweiz. Wochenschrift, p. 88, '86):

(1.) Red litmus paper should not turn blue placed over a flask in which two or three grains of lanolin is heated with 10 C.c. of a 30 per cent. solution of caustic soda Lanolin should be free from ammonia.

(2.) Pure lanolin heated in a capsule with five times its weight distilled water when melted floats to to the surface and remains clear on cooling, whereas impure lanolin becomes spongy.

(3.) No glycerin should be present in the water in which lanolin has been treated upon being evaporated.

(4.) When kneaded with water with exclusion of air it should take up more than its own weight of water without becoming soapy to the touch, and when triturated in a mortar it should not slip off the pestle or spatula.

DIGITALINE AND DIGITOXINE.—Ph. Lafon (Archives de Pharmacie, May 5, 1886) states that while digitaline of French manufacture gave the characteristic reaction of digitaline with alcoholized sulphuric acid containing a trace of iron perchloride, a magnificent persistent greenish-blue color, he has never had this reaction from either of the digitalines sold by Merck. The digitoxine of Merck, which is regarded by many Germans as the active principle of digitalis, has all the characteristics of the digitaline of the French Codex. It is completely soluble in chloroform; with difficulty dissolves in ether and is insoluble in benzine. It is colored green by muriatic acid and becomes a beautiful permanent greenish blue in the presence of the reagent first mentioned. In appearance it resembles closely the digitaline of Nativelle except that it is amorphous and yellow. Lafon concludes that the digitoxine of Merck and the digitaline of the French Codex are identical, and regrets the pharmacological confusion resulting from the present nomenclature of the products of digitalis.

OLEUM COCÆ, recommended as an application for earache, is prepared as follows (Ph. Ztscht, of Russl):

Coca leaves, cut,	ounces 8
Alcohol, 95 per cent.,	pint 1
Sesame oil	pints 3

The leaves are macerated in the alcohol for several days at a slightly elevated temperature, with occasional agitation. The oil is then added and the digestion continued for two days. The alcohol is then driven off by heat, and the mixture strained.

SCOPOLEINE, an alkaloid common to both Scopolia japonica and Scopolia lucida, the latter growing in the Himalaya mountains, is said by J. U. (Rep. de Pharm.) to consist of a brown, jelly-like substance, soluble in chloroform and partly in water, slightly acidulated with citric acid. It responds to all the characteristic reactions of the alkaloids. As the result of practical experiments, it is said to act more rapidly and expand the pupil to a greater extent than sulphate of atropine, without inconvenience to the patient.

THE ANTISEPTIC VALUE OF DIFFERENT COMPOUNDS of benzoic, boric and salicylic acids employed as food preservatives is reported by Sulman and Berry (Chem. News, March 12, p. 130). With the compounds of boric acid, variously known as aseptin, glacialine, boroglyceride, etc., it was found that the antiseptic power is due entirely to the free boric acid contained. It was also demonstrated of boroglyceride that the ice-like solid is resolved into glycerin and free boric acid when in contact with water; hence its antiseptic property is owing entirely to the acid liberated, the glycerin having practically no such value. The use of boric acid or borates is not to be recommended for physiological reasons, and especially is this true when employed for the preservation of milk. Salicylic acid and salicylates have no antiseptic value whatever in the preservation of milk. Benzoic acid proved objectionable owing to its effect of precipitating the casein; but with sodium benzoate good results were obtained. It is stated in its favor that it is tasteless, harmless in small quantities, and one-third more powerful than boric acid.

Correspondence.

We invite brief letters for this department upon any subject of interest to the pharmacist or druggist.

The publication of communications implies no indorsement by us of their contents.

Names of correspondents will not be printed if so requested.

Address matter for this department to "Editor of the WESTERN DRUGGIST, 69 Dearborn street." To be in season for the next issue, letters should reach us not later than the 5th of the month.

VERSUS PHARMACY LAWS.

(Editor The Western Druggist.)

I read with much pleasure the communication of Mr. J. S. Frantz in your May issue. If he be a reader of your esteemed publication I should like very much, in consideration of the modesty of his demands, to ask him if there is anything else he can think of that the legislature of Illinois could or ought to do to make him completely happy? For instance, a law that will forbid any citizen of the United States from engaging in the business of a druggist or apothecary in Danville, unless he first obtain Mr. Frantz's permission or wait until Mr. F. is dead or has made enough out of his avocation to retire and make room for another, who might buy out his privilege and do likewise. Don't be bashful, Mr. Frantz; it can all be done up at one session, and members of the legislature of the State you live in are not necessarily bound by the constitution of the United States nor that of Illinois in fixing your pecuniary trade interest for self, heirs, executors and assigns.

The long and short of such demands are simply the forerunners of a reaction that will shortly set in and sweep these pharmacy laws from the statute of every State and Territory in the Union, or weigh them down with such a load of other laws in the direct interest of other professions and trades, that liberty will smother under its burden.

Has the Supreme Court of Illinois ever been called upon to render an opinion on your pharmacy law? If so I have never heard of it, but venture the opinion that it would be poor policy to push it to the test. These laws are so utterly antagonistic to the spirit and intent of the constitution of the United States and those of every State in the Union that druggists generally reaping benefits out of their existence ought to be careful in their clamor for more. They were asked for by druggists, crowded upon legislatures, lobbied through by druggists, and the people outside of druggists had no more to do with them than the man in the moon. People that are not druggists are not so limited in intellect but what they are able to discriminate between a fool back of a prescription case and a man who understands and realizes the responsibilities of his calling. They are furthermore protected by general laws that hold every man, no matter what his calling may be, responsible for acts that may damage his neighbor. I would rather put my prescription into the hands of a clear-headed boy apprentice, who turns to the Dispensatory for information when compounding, than into the hands of a drunken, debauched Ph. D. or licentiate who is not regarded disqualified by law in consequence of such vice. To prove in any court how little the people are interested in building up this guild on the models of the eleventh and twelfth centuries, all that needs to be done is to take the WESTERN DRUGGIST into court and read to the jury what and how pharmaceutical societies instruct committees to operate in order to make laws for the rich man's son, for the benefit of a class, and to institute star chambers and boycotts, malicious prosecutions, and a source of revenue from a corruption fund squeezed out of every man who dares to engage in a legitimate business, or be annihilated, robbed of reputation, of property and personal rights.

Every board of pharmacy composed of members of any pharmaceutical association, or directly or indirectly interested in the business of manufacturing, compounding, dispensing or retailing any article in drugs, chemicals, etc., or wholesaling the same, is as much disqualified from examining an applicant for registration as a judge and jury would be from trying a man charged with horse-stealing, where both judge and jury had suffered the loss of a horse by theft but a short time before. *There can be no impartiality when every member is interested*, and an appl cant is at the mercy of his competitors in business. These laws must be changed and brought subordinate to the constitution or, in the interest of the rights vouchsafed to every citizen of this country in the pursuit of life, liberty and happiness, wiped out of existence. Let every druggist and apothecary remember that it is one of the principal axioms in this country that "every tub stand on its own bottom"—the survival of the fittest. The druggist who cannot command the confidence of the public by reputation for proficiency in his calling, and honesty in his dealings, ought not to be bolstered up and supported by arbitrary legislation, as is done in Mr. F.'s native land in the interest of nobility and privileged classes. These privileges and titles are the stay and support of despotic governments abroad, but there is no excuse for them here, Mr Frantz. Very truly yours,

HILARIUS LAXANTUS.

APPLETON, WIS., May, 1886.

[The allusions to Mr. Frantz in the above cannot justly be regarded as personal, since his position is simply that of the Illinois and all other intelligent pharmaceutical associations. Since the argument of "Hilarius" is an exceptionally able one for the opposition side, it merits a word in reply.

The vital questions at issue are: (1). Is it a function of wise government to guard the lives and health of the people? (2). Does this function comprise protection from imminent dangers which the people are powerless to protect themselves against by reason of their ignorance of a certain intricate science involving an art requiring much skill and experience, and of their consequent inability to determine who is competent and trustworthy among the persons professedly engaged in the practical application of the science? (3). Are laws which are calculated to avert these dangers, to protect the people from grave daily perils attending the dispensing of medicines by incompetent persons, to insure the utmost skill and trustworthiness in the sacred service of saving life and combating disease, to guard the integrity of the home circle and happiness of families—are, we ask, such laws to be decried as unconstitutional, as threatening 'life, liberty," or the possibilities for the "pursuit of happiness," or may they not be regarded as among the noblest expressions of enlightened government, and in the highest degree beneficent? (4). Are pharmacy laws based upon these aims and principles?

There can be but one answer to these questions. Whatever the motive which prompts the enactment of these

laws, their *effect* is invariably and undeniably to stimulate education in pharmacy, to insure greater competency, to curtail the "rights" of ignorance and quackery, concerning which certain persons are extremely sensitive, and thus to protect the public from a multiplicity of insidious perils. All these laws are by no means perfect. The plea of our correspondent that a drunken registered pharmacist is more to be feared than an intelligent unregistered clerk is not an argument against legislation of this kind, but on the contrary one demanding more stringent legislation. It pleads not the admission of the clerk, but the ejectment of the drunkard. The need of the hour, as we are pleased to find from the logic of "Hilarius," is not less or no legislation, but more and better legislation. This proposition has our hearty concurrence.—ED. W. D.]

NOTES FROM CUMBERLAND, MD.

(Editor The Western Druggist.)

I will take pleasure in writing a few items for the WESTERN DRUGGIST about pharmacy in our "Mountain City." We have about nine drugstores, with a population of about 13,000. We have an agreement among all of the druggists of the town to sell patent or proprietary articles at the price printed on the wrapper, and the prices of other drugs are very good. A strike in the mining region, of which Cumberland is the center, has injured business considerably. The pharmacists of the State are contemplating a pharmacy act, which will probably pass the legislature at its next meeting in 1888. The drug business in our town is in the hands of good men, and is very well conducted. The WESTERN DRUGGIST is *always* welcome and thoroughly enjoyed by me. It certainly is one of the best journals printed in the interest of pharmacy in the country.

Yours respectfully,

E. T. DUKE.

CUMBERLAND, MD., June 4, 1886.

THE WRONG DONE U. S. A. HOSPITAL STEWARDS.

(Editor The Western Druggist.)

Senator Manderson's bill creating two classes of hospital stewards in the army, and fixing their pay and allowances, has been reported favorably by the Senate Committee on Military Affairs. This bill is yet on the calendar, but will stay there unless the pharmacists urge upon Congress the necessity of saving its army apothecaries the degradation of having their wives eke out their miserable salary by taking in washing. No other nation asks so much of its army apothecaries and pays them so little as does the United States. The pay varies from $30 to $39 per month according to length of service. With allowances the pay is but $50 to $60 per month for an apothecary who is expected at one and the same time to be a skilled pharmacist, a practical minor surgeon, a trained cook and nurse, and a good clerk. The very unskilled cooks and nurses whom he is called upon frequently to superintend, receive very nearly the same pay. By raising the official status of the hospital steward the pharmaceutical profession would not only benefit their brethren in the profession, but would exert an excellent influence on the morale of the army as a whole and would especially benefit the common soldier whose welfare in sickness is largely in the hands of the hospital steward, who can at most carry the warrant of a sergeant, and is in consequence not able to exert the influence for good which his actual position requires.

Very truly, HOSPITAL STEWARD.

"I think the WESTERN DRUGGIST *the* paper for live druggists."—FRANK CRISS, Hospital Steward, U. S. A., Fort McDowell, Arizona.

STATE ASSOCIATION CONVENTIONS.

We append brief references to some of the pharmaceutical associations which convened in annual session during the month. A full report of the proceedings will appear in a *Special Association* edition of the WESTERN DRUGGIST, to be issued about one week hence:

The seventh annual meeting of the Illinois Pharmaceutical Association was held in the city of Rockford, June 8, 9 and 10. About 200 members were in attendance, and a number of interesting papers read. The following officers were elected: President, B. F. Gardner, Atlanta; First Vice-President, F. A. Druehl, Chicago; Second Vice-President, A. Shumway, Lanark; Third Vice-President, Jno. S. Green, Morrison; Treasurer, G. H. Sohrbeck, Moline; Secretary, L. C. Hogan, Englewood; Executive Committe, H. C. Robbins, Creston; M. B. Travis, Assumption; J. G. Schaar, Chicago; Editor of Proceedings, A. E. Ebert, Chicago; for State Board of Pharmacy, Geo. Buck, Chicago; F. A. Prickett, Carbondale; C. H. Grube, Robinson. The association adjourned, to meet at a date to be set by the Executive Committee, in the city of Decatur, next year.

The Georgia Pharmaceutical Association met April 13, 1886, in Armory Hall, Savannah, Ga. The following officers were elected: President, J. W. Stanford; first vice-president, P. C. Magnus; second vice-president, T. J. Moses; third vice president, L. C. Strong; treasurer, T. L. Massenburg; secretary, H. R. Slack. The Association adjourned to meet on Cumberland Island April 11, 1887.

The Arkansas State Pharmaceutical Association met at Little Rock April 27, 1886. The following were elected officers: President, Dr. J. R. McDaniel; secretary, Dr. J. R. Colburn; treasurer, E. P. Schafer; A. P. A. delegates, Messrs. W. W. Kerr, W. L. Dewoody, M. A. Elsele, Dr. J. R. McDaniel and Dr. C. J. Lincoln; N. R. D. A. delegates, the same gentlemen. The Association then adjourned subject to the call of the chair.

The East Tennessee Pharmaceutical Association met in Knoxville May 11, 1886. The following officers were elected: President, G. W. Albers, Knoxville; first vice-president, M. Block, Chattanooga; second vice-president, E. W. Tedford, Maryville; secretary and treasurer, J. G. Rawlings, Chattanooga; A. P. A. delegates, Messrs. J. H. M. C. Campbell, E. W. Tedford and S. H. Wilson. The Association adjourned to meet at Cleveland the second Tuesday in October, 1887.

The Virginia Pharmaceutical Association held its annual session at Alexandria May 11, 1886. The Association transacted a considerable amount of business, and elected the following officers: President, Hugh Blair, Richmond; first vice-president, Dr. Craighill, Lynchburg; second vice-president, E. Warfield, Alexandria; third vice president, J. H. Jeffries, Warrenton; fourth vice-president, T. M. Wills, Charlottesville; secretary, E. R. Beckwith, Petersburg; treasurer, F. H. Masi, Norfolk; Executive Committee, T. F. Knock, of Petersburg, C. A. Santos, of Norfolk, and E. C. Hamner, of Lynchburg. The Association adjourned to meet at Richmond on the second Tuesday in May, 1887.

The Texas State Pharmaceutical Association met at Dallas April 27, 1886. After an interesting session the following officers were elected: President, G. H. Rice, Bandera; first vice-president, P. H. Carter, Abilene; second vice-president, J. W. Graham, Austin; third vice-president, G. H. Eisenlohr, Dallas; treasurer, E. W. Lancaster, Marshall; recording secretary, W. L. Tucker, Waco; Executive Committee, Messrs. E. M. Wells, W. P. Patterson and W. B. Morrison; Committee on Queries, Messrs. J. A. Cravens,

R. H. Hart and G. Terrell; Committee on Adulteration, J. P. Casimier, W. H. Robert and W. A. Paulson; Committee on Pharmacy Law, Messrs. E. M. Wells, G. A. Eisenlohr and P. H. Carter; N. R. D. A. delegates, Messrs. F. L. King, P. H. Carter and W. L. Tucker; trustees, T. W. Powell, H. L Carter and J. W. Graham. The Association adjourned to meet at Fort Worth the second Tuesday in May, 1887.

The ninth annual meeting of the Kentucky State Pharmaceutical Association was held at Bowling Green May 5, 1886. After the transaction of routine and scientific business, the following officers were elected: President, J. W. Fowler, Louisville; first vice-president, W. Turner, Bowling Green; second vice-president, A. P. Louise; third vice-president, J. H. Lyne, Henderson; recording secretary, W. B. McRoberts, Stanford; corresponding secretary, E. Gobel, Louisville; treasurer, J. J. Brooks; Executive Committee, S. V. Davis, E. C. Pfingst and T. P. Taylor; Business Committee, C. S. Porter, W. K. Johnson, and J. O. Burge; Committee on Queries, C. L. Diehl, A. Schoettlien and H. Bathlam; Committee on Legislation, H. W. Evans, W. S. Johnson and J. W. Gayle. The Association adjourned to meet at Louisville the third Wednesday in May, 1887.

The Maryland State Pharmaceutical Association held its fourth annual meeting May 31, in the Delegates' Chamber, Annapolis. The following officers were elected: President. A. J. Corning, Baltimore; first vice-president, J. B. Boyle, Westminster; second vice-president, John T. Wooters, Centerville; third vice-president, J. W. Hodges, Annapolis; Secretary, W. L. Byers, Hagerstown; treasurer, S. Mansfield, Baltimore; Executive Committee, J. J. Thomsen and Joseph Roberts of Baltimore, and W. L. Byers of Hagerstown. The Association adjourned to meet at Ocean City the third Tuesday in July.

The Alabama State Pharmaceutical Association met at Birmingham May 11, 1886. After transaction of important scientific and other business, the following officers were elected: President, A. L. Stollenwerck, Birmingham; first vice-president, J. B. Collier; second vice-president, J. L. Wikle; secretary, P. C. Candidus, Mobile; local secretary, W. F. Princh; treasurer, E. P. Galt; Executive Committee, Messrs. G. M. Morrow, R. L. Wildman and John L. Rison. The Association adjourned to meet at Mobile May 11, 1886.

The Nebraska State Pharmaceutical Association met in the Omaha Exposition building May 11, 1886. The following officers were elected: President, Jas. H. Reed, first vice-president, C. E. Borquist, Sidney; second vice-president, M. E. Shultz, Beatrice; third vice-president, C. H. Brunner, Fremont; fourth vice-president, H. E. Wells, Omaha; fifth vice-president, W. D. Haller, Blair; secretary, C. J. Daubach, Omaha; treasurer, Jas. Forsythe Lincoln; local secretary, N. A. Kuhn, Omaha; and the Association adjourned to meet at Omaha May 11, 1887.

The Ohio State Pharmaceutical Association met at Black's Opera House June 2, 1886. The following officers were elected: President, Virgil Coblentz, Springfield; first vice-president, C. N. Nye, Canton; second vice-president M. D. Fulton, Bucyrus; permanent secretary, L. C. Hopp, Cleveland; permanent treasurer, Chas. Huston, Columbus; Executive Commitee, G. W. Voss of Cincinnati, Theo. Troupe of Springfield, and D. R. Arnold, Sandusky. The Association adjourned to meet at Sandusky June 9, 1887.

The New York State Pharmaceutical Association held its eighth annual meeting at Rochester, N. Y., June 8, 1886. The following officers were elected: President, C. Z. Otis, Binghamton; vice-presidents, J. H. Smith, of Au Sable Forks; John Thomas, of Buffalo; R. E. Phillips, of Fulton; secretary, C. W. Holmes, Elmira; treasurer, C. H. Butler, Oswego. The Association then adjourned to meet in Thousand Island Park at a date to be fixed by the Executive Committee.

The Indiana State Pharmaceutical Association held its fifth annual meeting at Indianapolis June 8, 1886. The following were elected officers: President, Leo Eliel, South Bend; vice-president, D. Helt, Lafayette; second vice-president, M. Jay, Lafayette; third vice-president, Geo. H. Loersch, Fort Wayne; treasurer, J. N. Hurty, Indianapolis; secretary, Frank Hereth, Indianapolis. The Association then adjourned to meet next year at the call of the Executive Committee.

The Massachusetts State Pharmaceutical Association held its fifth annual meeting at the Revere House, Boston, Mass., June 1, 1886. The following officers were elected: Directors, Henry Canning, of Boston; J. H. Manning, of Pittsfield; G. E. Fairbanks, of Worcester; W. E. Luscomb, of Salem, and J. W. Colcord, of Lynn. Henry Canning was elected president of the board of directors, and consequently, of the Association; permanent secretary, J. W. Colcord, of Lynn; treasurer, F. H. Butler, Lowell; Executive Committee, C. A. West, of Boston; H. C. Hall, of Waltham; W. C. Durkin, of Boston. The Association adjourned to meet at Holyoke June 7, 1887.

The New Jersey Pharmaceutical Association held its sixteenth annual meeting in Metropolitan Rink, Newark, N. J., May 19, 1886. There was a large attendance, and many new members were elected. Papers of interest were presented, and the following officers were elected for the ensuing year: President, F. B. Kilmer, New Brunswick; first vice-president, G. S. Cook, Somerville; second vice-president, H. O. Ryerson, Newton; treasurer, Wm. Rust, New Brunswick; recording secretary, R. H. Van Sant, Trenton; corresponding secretary, R. J. Shaw, Plainfield. The Association adjourned to meet at Paterson the third Wednesday in May, 1887.

The ninth annual session of the Pennsylvania Pharmaceutical Association convened June 8, 1886, in the Court House, Lebanon, Pa. The following officers were elected: President, Jas. A. Meyers, Columbia; first vice-president, W. L. Turner, Philadelphia; treasurer, J. L. Leinberger, Lebanon; secretary, J. A. Miller, Harrisburg. The Association then adjourned to meet in Philadelphia the second Tuesday in June, 1887.

The California Pharmaceutical Society met May 13, 1886, the president, Prof. W. Searby, in the chair. The minutes of the previous meeting were read by the secretary, Chas. Troppman, and approved. J. Kallmeyer, Esq., of Santa Maria, was elected to membership. Messrs. J. Crawford, Albert Kern, Geo. Hall and Henry I. Coon, having left the retail drug business, tendered their resignations, which were accepted. Prof. E. W. Runyon exhibited to the society some beautiful tops of Cannabis Indica, aloes, as originally packed in monkey-skins, and a horn of civet. He then read an interesting paper on "The Manufacture of Acetum Scillæ." Prof. Frazer read, for Mr. S. McDonald, a paper on "Sulpholine Lotion; $1.50 a bottle. What is It?" also one on "A New Process in Urinalysis." Dr. S. C. Heineman, of Globe, Arizona, then presented the society with some beautiful specimens of iron, silver and copper ore. Mr. H. Prien exhibited samples of "Highland Brand" milk. Mr. C. Troppman then strongly urged that measnres be taken for the drafting and enactment of a State pharmacy law. The meeting then adjourned.

Reviews.

WATTS' MANUAL OF ORGANIC CHEMISTRY. Theoretical and Practical. Vol. II. Chemistry of Carbon Compounds. Second Edition. By William A. Tilden, D. Sc., F. R. S., Etc. Philadelphia: P. Blakiston, Son & Co., 1886. Chicago: G. P. Engelhard & Co.

The second edition of Watts-Fowne's chemistry, being practically the thirteenth edition of Fowne, has recently made its appearance, and is carefully revised by the present author from the first edition by Henry Watts. This edition, as in the first, is divided into two volumes, the organic and inorganic, and to consumers of the midnight oil of a generation ago the veteran work of Fowne will be found to appear in a new garb, although in character and usefulness ever the same. We are in receipt of the second volume, or that pertaining to organic chemistry.

In the general arrangement the organic compounds are classified according to their structure and functions, as hydrocarbons, alcohols, ethers, acids, bases, etc., and the compounds in each group arranged in homologous series. The work opens with a detailed description of the process for the ultimate analysis of organic compounds, after which follows the theory of their classification, so essential to a correct understanding and retention of those results which flow from an alteration in the kind, number and relative position of the atoms composing the molecule, whether due to isomerism, oxidation, reduction, dehydration or substitution. The consideration of the paraffine series is next in order, and the work runs through the various series to the benzine group, whose homologues, isomers and substitution compounds are graphically portrayed by means of the single and double benzine ring, and form a feature of the work.

The chemistry of the carbon compounds is of especial interest to the pharmacist. In that field he looks for and needs information almost daily, for in that direction particularly is the science of chemistry extending, as evidenced by the many new organic combinations that have of late been effected and have found application as remedies.

The difficulties in the way of confining the treatment of so vast a subject within moderate limits and yet omit nothing of theoretical interest or practical importance has been reduced to a minimum in the present work, which may be considered a fair exponent of our present knowledge of this vast and constantly increasing department of chemistry. To the pharmaceutical student and practitioner it will prove a valuable book of reference as showing the construction, exact position and chemical relation of organic compounds.

QUIZ COMPEND OF PHARMACY. By F. E. Stewart, M. D., Ph. G., Based upon Remington's Practice of Pharmacy. Philadelphia: P. Blakiston, Son & Co. Chicago: G. P. Engelhard & Co. 1886. Price, $1.00.

The quiz Compends of which this work is one of the series, has become a permanent feature with students in medical colleges. There is good ground for believing that the superficial knowledge attained at these institutions, is in great measure owing to the introduction of these time and labor-saving devices, which have to a great extent supplanted the text-books.

The "quiz" is a most valuable means for recalling to the mind of the student facts which have been nearly forgotten, or, if the problem be one involving a principle requiring the application of certain facts, the quiz becomes a valuable aid to demonstration. An unanswered question is like a sword which wounds the intelligence; a satisfactory answer heals the wound, but the impression upon the mind remains and forms a permanent part of the memory. The quiz, therefore, when supplemented with proper study is the ideal form of teaching, and is, in fact, the measure by which knowledge is finally judged, as in examinations. When, however, as in the works under consideration, this principle is taken advantage of, but subordinated with a view to impart the information as well, it fails of its true purpose, and becomes a mere make-shift. The subject of pharmacy is based upon too many sciences, is too comprehensive and broad in scope as well as in detail, to be permanently benefited by any temporizing expedients.

That the book, when discreetly used, will be of value to students, may be conceded, but the excitement and attendant subterfuges common to students anxious to pass creditable examinations, place discretion in such instances at the mercy of "cramming." With aids to superficial study in other branches, pharmacy so far has escaped what we regard as a perversion of teaching, and, we confess to not a little disappointment that the first step in that direction should be taken by a teacher in pharmacy.

CONTRIBUTIONS FROM THE DEPARTMENT OF PHARMACY OF THE UNIVERSITY OF WISCONSIN. No. 2. 1886. Pamphlet. Madison, Wis.

A neatly printed pamphlet of over fifty pages, containing a number of exceptionally interesting articles. In addition to subjects investigated in the laboratory by students under the direction of Professor Power, it contains also a valuable paper from Prof. Wm. Trelease on an opium mold. The paper by Emil Weschke, which we publish in this issue, shows much patient and studious investigation. The prize awarded the author was eminently deserved.

BULLETIN NO. 1 PURDUE UNIVERSITY SCHOOL OF PHARMACY. Robert B. Warder, Lafayette, Ind. 1886.

A report on the laboratory investigations relative to the character of the drugs, etc., supplied to the trade. An abstract of most of these were published last month.

PROCEEDINGS MICHIGAN STATE PHARMACEUTICAL ASSOCIATION. 1885. Third annual meeting. Detroit. S. E. Parkill, Secretary.

An imposing pamphlet of over 250 pages, containing, in addition to the proceedings of last year's meeting, papers of the high scientific character for which the members of the association are noted. Secretary Parkill deserves much credit or his able and painstaking work.

PHORBIUM TENAX IN TREATMENT OF WOUNDS.—Dr Monckton (Lancet) states from 1869, when the properties of the plant were first made known, till the present, he has used it in hundreds of cases, including lacerations and amputations of every description, and does not hesitate to say that there is nothing that can equal it in producing healthy granulations. He uses a strong decoction made from the roots and the butts of the leaves boiled for twelve hours. The decoction readily ferments, but may be kept any length of time by the addition of about an ounce of equal parts of carbolic acid and glycerin to every quart.

Botany and Microscopy.

Mr. E. M. Nelson, who has examined the new objectives of Zeiss, mentioned in our last issue, writes of them as follows:

"The great benefit which will accrue to microscopists from the use of lenses of this construction will be due, not so much to the absence of color as to the great freedom from spherical aberration. In other words, these lenses will stand illuminating by axial cones of larger angle. This is evident from the performance on Navicula rhomboides. This diatom, which, under oblique light, is a test for a ¼ of 90°, becomes a pretty severe test for the widest-angled homogeneous immersion objective under a large axial cone; in the former case only crossed striæ or checks could be made out, but in the latter the minute grating should be distinctly seen. This minute grating I have never seen so distinctly defined as with this new objective when illumined by Powell's achromatic condenser with full aperture. It shows the following very delicate objects most distinctly: The fracture through the delicate perforated membrane inside the large areolations in Isthmia nervosa, and the fracture through the still more minute perforations inside the hexagonal structure of Triceratium favus. This last object may be termed the highest test to which the microscopy of the present day can be subjected. Those interested in oblique light will be glad to hear that the striæ on Amphipleura pellucida come out sharper than I have ever seen them before. The valve is resolved from tip to tip, showing that the lens is flat in its field. To sum up, this lens is decidedly the most brilliant objective I have ever seen. After mentioning the above tests, it is almost unnecessary to say that bacteria, stained and mounted in balsam, are most clearly defined."

The force exerted by growing plants is very great. Fungi are composed of soft tissues, yet a growing mushroom has been known to lift a large paving stone. The rootlets of pines and cedars growing on the sides of the rocky declivities penetrate narrow crevices in the rocks, and finally by their growth loosen huge masses and send them tumbling down the cliff. Years ago President Clarke, of the Massachusetts Agricultural College, put a pumpkin into harness and demonstrated that it was capable of lifting thousands of pounds. In a cemetery in Hanover a seed germinated in a crevice beside a tombstone which contained twenty cubic feet. The seedling, now a small tree, has lifted the stone over five inches. Not the least wonderful of phenomena of this class is the force exerted by the radicle of the germinating plant. Darwin has demonstrated that it exerts a force which, in proportion to its size, is astonishing. This force the plantlet utilizes in sending its root into the soil, and the strangest part of the strange phenomena is that the little soft radicle is capable of penetrating soil very much harder than itself.

An interesting series of experiments have been tried by Francis Darwin and R. W. Phillips, and another series independently by M. Leo Errera, with the view of determining whether the sap, in its ascent, travels mainly from cell to cell through the cell cavities, or along the cell-wall substance. The phenomena of osmose and some other phenomena have led many to the supposition that sap is conveyed chiefly in the latter, and not in the former manner; but the experiments tried by these three investigators pretty clearly prove that this is not the case. M. Errera's experiments are very simple, and can easily be repeated. He prepares an injection mass consisting of, gelatin, 20 parts; water, 100 parts, and enough Chinese ink, finely comminuted, to make a black mass. This melts at 33° and solidifies at 28° C. Leafy twigs of some plant that has large ducts are now severed from the plant, one under water, one in the air, and one under the melted gelatin mass. The latter is now beaten out and rapidly transferred to water, and a very thin section cut off, so as to expose a fresh surface. That its vessels are plugged with a gelatin mass may be plainly seen with a magnifying glass, owing to the black color of the mass. It is evident, therefore, that water can only ascend the stem by passing up along the cell walls, the cavities of the cells being closed. The branch that was cut in the air is now also put into cold water, and the three are observed. The first to wither is the one whose vessels were plugged with gelatine; then, some time later, the one that was cut off in the air, and lastly, but only after a considerable time, the one that was cut off under water. If, however, the first one have its gelatin-filled portion cut off under water, it will revive for a time, providing it has not been permitted to remain too long in a withering condition.

We happened in the woods a few days ago when the red maples were in fruit. A slight breeze was blowing at the time, and we were interested in observing the curious adaptations of the fruits for dispersion. The small double samaras are likely to become detached only when the wind is blowing. They then break away from the petiole and from each other and fall with a rapidly gyrating motion to the ground. The gyratory motion is due to the peculiar form of the wing, which is thickened and convex on one side, thin and concave on the other, and broader and thinner at the distal end. Owing to this gyratory movement it occupies a comparatively long time in falling; without measuring accurately the time, we should say five or six times as long as it would have occupied in falling directly the same distance. In the meantime, therefore, it is conveyed to a much greater distance from the parent tree than would have been possible had it not possessed the gyratory motion. Furthermore, the seed-end of the fruit is, in its fall, directed obliquely downward, so that when it falls among weeds or grasses that end is nearest the soil, and therefore in position most favorable for germination. In looking about in the grass for the fruits we were surprised to find how large a number had penetrated through the grass to the ground, and of course almost invariably with the wing upward.

On a botanical trip to Devil's Lake, Wis., a few weeks ago we observed on the sides of the cliff overlooking the lake immense numbers of the Columbine, Aquilegia Canadensis, and these were frequented by bumble-bees. One of the latter we watched as she passed from flower to flower gathering her load of sweets, and we observed that she invariably avoided the regular road to the nectar and sipped it through an opening in the base of the spur,

which she either cut for herself, or which had been cut for her by a previous visitor. Our curiosity was awakened, and as the flowers were very abundant many of them were examined, and it was found that the great majority of them had their nectaries perforated. We also watched the operation of perforating and ascertained that it was very quickly and easily done. We were aware that certain short tongued bumble bees were accustomed to obtain by illegitimate means the nectar from long-spurred or long-tubed flowers, but we confess the expertness of the thievery surprised us. Will the Columbines give up the struggle for existence and join the great host of plants that have been but no longer are, or will they develop some protective device to circumvent the bumble-bees?

Professors J. C. Arthur, Chas. R. Barnes and John M. Coulter have recently published a "Hand-book of Plant Dissection" The book is a guide to the systematic study of a few typical plants. The discussion of each plant is divided into three parts: 1. Preliminary, giving explicit directions where to find the specimens and how to prepare them for examination. 2. Laboratory Work, the aim of which is to suggest rather than to describe—to lead the student to discover facts for himself. 3. Annotations, which aim to explain points that for any reason the student cannot be expected to find out for himself, and to furnish hints and references for more extended work. The book unquestionably supplies a great want, for there are many teachers of botany who appreciate the value of just such work as is outlined in this Hand-book, and have been endeavoring to carry out a similar plan of work in their own laboratories. To this class of teachers the book will be a great relief and help. But there is a larger class of teachers of botany who have no well-defined method, or who are halting between the old and the new methods of instruction. To these the book will be a double boon—an instructor in the methods of teaching botany, as well as a laboratory convenience.

The authors of the work are among the foremost teachers of the science in this country, and the Hand-book, it is understood, is the outgrowth of practical experience in laboratory teaching, every part of it having been repeatedly tested in the class-room.

Harvard University, far more than any other institution in this country, has given inspiration and direction to botanical study. This is no doubt largely due to the influence of Dr. Gray, the foremost botanist in this country, and a man whose kindness of heart as well as his enthusiasm for his favorite science, has made him as ready to encourage others in the study as to pursue it himself, he has naturally gathered about him the botanical talent of the country, some as his assistants, others to receive his personal advice and instruction. Young teachers of botany and others with a penchant for botanical studies have for many years been wont to go to Cambridge during summer vacations to avail themselves of the superior advantages afforded there for the pursuit of the study. This long ago led to the establishment of a summer course in botany, in which many of the ablest teachers of the science belonging to the younger generation of botanists have been trained. Although Professor Gray no longer lectures regularly to the students the summer school which he established still flourishes. It is now under the immediate direction of Professors Goodale and Sargent, two of his able assistants. With its fine botanical garden and arbor etum, its extensive herbarium, its magnificent botanical library, its very complete apparatus and equipment for botanical research, Harvard will doubtless long continue to be the botanical Mecca of this country, and enthusiastic young teachers who wish to acquaint themselves with the most approved methods of botanical study and teaching will continue to flock to the Harvard Summer School in Botany during their vacations.

Some of the gigantic seaweeds have stems which exceed in length any of which terra firma can boast. Recently the ship "Clever," commanded by Capt. John Stone, arrived at Montevideo with a portion of a seaweed which had been picked up in the Atlantic near the equator. The sailors perceived an object floating on the surface some distance from the ship, and, manning a boat, they rowed to it, and ascertained that it was an alga of enormous size. On measuring it, it was found to have a length of upward of fifteen hundred feet. It has been identified by botanists as Macroceptis pyrifera.

The papers of the late Dr. Englemann, of St. Louis, are being collected and arranged by Professors Gray and Trelease for publication. It will be a great boon to botanical students to have the works of that able and conscientious botanist in more accessible form.

Dr. J. H. Oyster, of Paola, Kan., recommends the following preparation of glue for mounting herbarium specimens: Take of glue, one-half pound: of acetic acid, one-half pint. Break the glue into small pieces, put it into the acid, and set it on the back part of the stove to keep warm for a few hours until the glue has passed into the solution, and then it is ready for use. Cork it up in a bottle, and it will keep any length of time. It is also an excellent glue for many other purposes.

It is a well-known fact that in the case of many aquatic plants which bear both submerged and aerial leaves the latter are much less divided than the former. This is the case, for example, with the leaves of Ranunculus nultifidus and Lium maculatum. Herr Schenck, who has investigated the physiology of aquatics, claims that the finely divided submerged leaves are an adaptation, which enables them the better to resist currents, and, in addition to this, to expose a larger surface to the action of the diffused light. The Botoinogetons, however, are an exception to the rule, the floating and submerged leaves being of simllar shapes.

Much difference of opinion has prevalled among reputable physiologists as to the cause of the formation of gum in trees. Some have regarded it as produced by the ordinary vital changes taking place in the plant, others have supposed it to be due to the effects of an organized ferment or vegetable germ acting upon certain amyloid compounds of the plant, and still others have regarded it as a ferment of a character resembling diastase. As stated in our January issue Dr. J. Wiesner believes the ferment belongs to the same group as diastase, but differs from it in that, while converting starch into dextrin, it produces no sugar in the process. He regards the granular protoplasm of the parenchyma cells as the seat of the development of the gum ferment. When formed, it attacks the cellulose of the cell walls, converting it into gum or mucilage.

NOTES FROM GERMANY.

BY OSCAR LOEW, PH. D. MUNICH.

THE agitation of the Cologne pharmacists against the feudal privilege claimed by the government in regard to the establishment of drugstores resulted in the introduction of a bill by Balser into the Prussian Diet changing the drugstore regulation system which has existed since 1811. Before 1811 the druggist was granted the right of establishing drugstores which he held in fee simple as in the Anglo-Saxon countries. Since 1811 permits only were granted and drugstores could be sold, transferred or established only by permit of the government, which made rather a blue lookout for an aspiring young pharmacist of moderate means, unless he had the good fortune to marry a drugstore in existence before 1811. Petitions for the establishment of drugstores are annually refused in great numbers. This has been one great source of the widespread distribution of German pharmacists, emigration taking from Germany more pharmacists than any other professional men. The Balser bill was rejected by the Prussian Diet committee to which it was referred, but this committee recommended that the subject be taken up by the Reichstag. It is claimed by the authors of the bill that it would have resulted in cheaper and better medicines through the operation of healthy competition.

THE Swiss Society of Apothecaries, in conjunction with their government, are taking the preliminary steps for the preparation of a National Pharmacopœia.

GENEVA (Switzerland) is making arrangements for a grand pharmaceutical exhibition in conjunction with the International Exhibition of 1888.

PHARMACY is declining in Switzerland, owing, as some assert, to the increase of the number of drugstores. In the Canton Vaud there is one store to every 3,600 inhabitants, and in Vevay one to every 1,200. Another more probable assigned cause is the extensive practice by physicians of the right to dispense their own medicines.

A BILL has been introduced into the Reichstag taxing very heavily all patent or secret remedies. Its object is to diminish their sale and decrease the importation of them from other countries. France alone draws $200,000 annually from Germany for patent medicines. The police authorities frequently publish analyses of patent medicines and descriptions of their real value.

AN apothecary in Müldhausen has been condemned to six months' imprisonment for selling tartar emetic as an emetic to a man with a fatty heart, who died from its effects.

A PHYSICIAN bought 20 grams of iodoform from a Munich barber who was thereupon arrested. The barber's guilt turned upon the question whether the sale was a wholesale or retail transaction. It was decided to be a retail transaction and hence the barber was guilty of a criminal offense. He was thereupon fined $2.50.

TWO Prussian dentists were fined for assuming the title M. D. without authority.

THE Liebig monument fund amounts to $25,000, and the monument will be erected in Ziessen, a small Hessian University town where Liebig first won fame as a lecturer on chemistry.

DR. VARRENTRAPP, a prominent German authority on State Medicine died recently in Frankfort on the Main. He was the founder of the first German hygienic journal.

DR. RIEDEL, a prominent Berlin pharmacist, and Dr. Mirus, a leading Jena apothecary, died recently.

THE newly discovered Germanium (a Teutonic offset to the French "Gallium") fills one of the vacant places in Mendelejeff's "periodical system of the elements," as it holds the position between antimony and bismuth. Germanium sulphide is obtained by heating argyrodite in a current of hydrogen, and distills over in red-brown drops. The oxide is obtained by igniting the sulphide in presence of oxygen. The element itself can be obtained by reduction of the oxide by hydrogen. Germanium resembles arsenium.

BUTSCHI has found that the gregarines (low animal organisms) contain in little globular masses, a substance related to glycogen which plays the part in their economy which fat does in the mammals.

A MUNICH grocer was fined for selling a patent medicine called Swiss pills.

REICHMANN has found that raw milk requires a longer time for its digestion than cooked milk, and the last is therefore better suited to weak stomachs.

CAPE HORN air has been found by A. Munti and E. Aubin to contain 20,864 p. c. oxygen, while the air of Paris at the same time contained 20,914. Ebermayer found that the air of dense forests had essentially the same composition of that upon the open plain. It would be fair to presume that forests produce immense quantities of oxygen, but it would seem from these analyses that diffusion and currents rapidly balance the differences. The forest air doubtless owes its beneficial qualities to the absence of dust and the presence of aromatic hydrocarbons.

BIKFALVI, after experiments upon dogs, found that a very small quantity of wine tends to promote digestion. Beer and whiskey retard it, while a small quantity of coffee or salt increases digestion. The food was placed in bags of muslin and given to dogs to swallow; the animal being forced to take at the same time wine, whiskey, beer, etc. After a definite time the bag was pulled out by an attached string and the above conclusions were based upon the diminution in weight which resulted.

DR. FUNFSTUCK has published a large illustrated "History of the Plant Kingdom" which contains a description of the more important plants arranged according to the natural system.

DR. BIEDERMANN'S Technisch-Chemisches Jahrbuch. 1884–'5 has recently made its appearance. It contains 291 illustrations and a careful resumé of the most recent progress in chemical technology.

PROF. W. EICHTER'S "Syllabus der Vorlesungen über specielle und Medicinisch-pharmaceutische Botanik" has reached a fourth revised edition. It contains much botanical information in a small space.

R. ENGERN has published a work on "pharmaceutical songs and sayings" entitled "Aus meiner Pillenschachtel" From my pill-box).

The city council of Emporia, Kan., having levied a tax of $100 per annum on each druggist in the city, Messrs. Kelly Bros., of that place, inquire if a similar tax was not levied upon the druggists of Chicago, and "did they pay it?" They paid it, but soon secured, practically, its repeal, by bringing the force of organization to bear on the council. One State can, however, establish no precedent for another in this matter, as the respective State statutes and the powers of the council, as defined by the organic law, determine in each case the question of legality.

Notes and News.

Amyl nitrite has been found to be an antidote to cocaine poisoning.

A local druggists' association has been formed in Toronto, Canada.

A French court has decided that linseed meal is not a medicament.

Quills coated with croton oil have been used as vaccine points lately.

A laudanum bacillus has been found by Dr. D. G. Puerta in tincture of opium.

The store of J. S. Allison & Co. at Arapahoe, Neb., was destroyed by fire May 28.

Pohl has found that chloral hydrate is sometimes adulterated with calcium chloride.

A Belleville, Ill., farmer recently planted some cathartic pills. What will the harvest be?

Australian opium containing 10 per cent. of morphne has recently been offered for sale.

The Northwestern Lancet has lately discovered that boiled cows do not give good milk.

The laboratory of C. G. V. Am Ende, of Hoboken, N. J., was destroyed by fire May 19, 1886.

The Garden City, Mo., authorities are trying to impose a $600 tax on the pharmacists of that city.

Adeps, according to a Kansas pharmaceutical definition, means "neatness, accuracy and dispatch."

Georgia journalists claim that chewing gum is the source of the obesity of the women of that State.

The Shah of Persia has named a German pharmacist, A. Schverin, court apothecary at Teheran.

The use of Fowler's solution as a preventive of malaria has been recommended by Thomasi Crudell.

Mr. William Ellithorne, a prominent Liverpool (Eng.) pharmacist, died May 16 at the age of fifty.

The Michigan Board of Pharmacy will meet in Detroit July 6 to examine candidates for registration.

The Maryland College of Pharmacy graduated twenty-eight young men at its thirty-fourth commencement.

The Monthly Magazine of Pharmacy and Allied Sciences has just discovered the Hot Springs of Arkansas.

According to Mr. Williams of the Pharmaceutical Society of Great Britain, nitro-glycerin is not a poison.

The St. Louis College of Pharmacy graduated thirty-three of the applicants for its honors March 16, 1886.

The Tulane University of Louisiana granted the degree of Master of Pharmacy to eleven applicants March 31.

Coca is being grown in British India. Five per cent. of cocaine has been extracted from the leaves there grown.

Geo. C. Close, Ph. G. of the New York College of Pharmacy class of 1831, is still engaged in pharmaceutical work.

A guano factory having been worked at a loss in Basle, Switzerland, is to be turned into a perfumery manufactory.

D. N. Blocher, of Millington, Mich., has favored us with a copy of his reply to the threatening manifesto of the Brown Chemical Company. He defies the company to make good its threat, and believes that hencefcrth druggists should give them a wide berth.

Emil Laurent claims that diastase is not the result of bacterial action, and his recent experiments seem to prove it.

Many physicians are beginning to find that cocaine is not destitute of danger as an anæsthetic in operations on the eye.

Dr. F. E. Stewart has been appointed Demonstrator of Pharmacy in the Woman's Medical College of Philadelphia.

A German entered a Kansas drugstore exclaiming, "Mein Got, I eat bork, und I dink dere vos machinery in it."

The "Zymotechnic Magazine" is a journalistic venture devoted to the trades whose existence depends on fermentation.

The New Hampshire Pharmaceutical Association will hold its annual meeting the last of September or first of October.

The village pharmacists of Russia are not required to pass an examination, greatly to the detriment of legitimate pharmacy.

Carlyle's house has become the property of a patent medicine proprietor—a class of people whom Carlyle greatly detested.

Dr. Henry Fauvel, a prominent French chemist, was drowned May 26, 1886, while making some experiments with Seine water.

Dr. Melseus, a distinguished chemist, who discovered the treatment of lead poisoning by potassium iodide, has just died at the age of seventy-two.

According to Dr. Thos. Nichols the 200th potency of the cork of a bottle containing lead acetate has cured, on being smelt, hereditary foetid feet.

Paul von Ritter has left to the University of Jena $75,000, the interest of which is to be devoted to the promotion of the doctrine of evolution.

When a cork of an oil of lemon bottle shows signs of being bleached it is high time to examine the condition of the oil. It is in danger of destruction.

An English professor, not of chemistry, gave as a test for iron "the yellow prussiate of potash, potassium bichromate gentlemen," in a lecture recently.

One of the latest candidates for therapeutic favor is named Fagine; a slight mispronunciation would convert it into Fakine, a much more appropriate title.

Cases of insanity alleged to be due to cocaine given to cure opium, continue to appear in the medical press. Switzerland is the latest contributor to science in this particular.

Dr. Chevreuil, the dean of science, now in his hundredth year, recently fell and injured himself. He has been a member of the French Academy of Science for more than seventy years.

"I want some preserves on my bread," whined a boy to his mother. "Johnny," coaxed the mother, "that nice butter and sugar is the thing for little boys." "Wow, wow," he howled, "I won't have it. 'Taint nothing but

glucose and oleomargarine, and it's pizen. Gimme preserves if you don't want your little boy to die." He got the preserves.

Medical professors in Edinburgh, Scotland, are well paid. The Professor of Anatomy receives $17,000; the Professor of Physiology $10,850, and the other professors from $8,000 to $10,000.

Dodonæa leaves have recently been sent to England in mistake for coca leaves. They differ from these last in their licorice taste and varnished surface. The lateral mark along each side of the mid-riff in the coca is absent in these leaves.

The Brown-Eckstein Company, of Rockford, Ill., has been incorporated with a capital of $12,000; incorporators, Adolf Eckstein, P. C. Wadsworth and E. H. White. The firm has long been a "corner-stone" in the drug trade in that city.

Dr. Horatio C. Wood (Therapeutic Gazette, May, 1886) claims that the extract of witch hazel so much used as a domestic remedy is destitute of medicinal properties. The virtues of this much-lauded article are due to the alcohol and water it contains.

We learn with pleasure that in the Buffalo College of Pharmacy, recently established, Dr. D. S. Kellicott has been appointed to the chair of Botany and Microscopy. Dr. Kellicott has been long and favorably known to the microscopists of this country.

The annual output of graduates from the Chicago Medical Colleges is 500. It is not surprising that a Chicago medical journal once suggested that titles were the chief object in life of Americans, and the easiest way to get a title was to graduate from a medical college.

The Kansas Supreme Court has decided that where goods are removed by a railroad company and placed in its warehouses to await payment of freight charges and a delivery to the vendee, the implication of the law is that the goods are still in transit and subject to the vender's right of stoppage.

The pharmaceutical association announcements this year were well worthy a profession whose tendencies are to encourage a love of the beautiful in small as well as great things. The Massachusetts and Minnesota announcements in particular were very beautiful specimens of the lithographer's art.

Mr. Herman Matthael, of the firm of J. W. Allen & Co., a prominent and esteemed young pharmacist of Atchison, Kan., was killed recently by being thrown from a horse He was born in Lauenburg, Germany, Sept. 6, 1862, and was graduated in the class of 1883 of the Cincinnati College of Pharmacy.

Messrs. Lehn & Fink have dissolved partnership by mutual consent. The business will be continued under the same name and at the same place by Messrs. F. W. Fink, Chas. Eberhardt and Albert Plautz, general partners, and Henry Merz, special partner. The new firm has our best wishes for its prosperity.

At the April 14, 1886, meeting of the San Francisco, Cal., branch N. R. D. A. the Executive Committee reported that but two notices of violation of "Schedule Prices' were received. The first was not strictly such a violation; the second was an infraction of the "Schedule Price" rule through ignorance of the actual "Schedule Price." So few complaints, in view of the number of drugstores and the generally demoralized condition of the trade prior to the organization of the branch, is regarded as peculiarly gratifying. Messrs. C. W. Fisher, of San Jose, M. S. Hammer, of Sacramento, and C. A. Bayley, of San Francisco, were reported as having been appointed a committee presumably to secure the organization of State Association N. R. D. A. and as delegates to the N. R. D. A.

It has been stated that the Russian Government intends to close the German University at Dorpat, the pharmaceutical institute of which has been so long and so successfully conducted by Dragendorff. This would be a severe blow to the German element in the Baltic provinces, and an irreparable loss to science.

Pharmacy in Spain is in a bad way commercially, owing to an exaggeration of the same causes which produce pharmaceutical financial depression here, added to the establishment of military pharmacies by the government, which have the same effect on the practice of pharmacists that dispensaries have on the practice of medicine.

According to a Chicago pharmacist, quoted in the Daily News, nine-tenths of the patent medicine purchases are bought by hypochondriac cranks. There was therefore no little poetic justice in Halloway (of pill and ointment fame) endowing a lunatic asylum; a portion of his wealth returned to the afflicted class from which it was derived.

From a foreign exchange we learn that three young ladies, licensed pharmacists from England, have jointly opened a pharmacy in Havana which bids fair to present considerable competition to the native apothecaries. As they are young and of course pretty, the competition will probably not last long, owing to the well known gallantry of the Dons.

Senator Gorman has introduced in the United States Senate a resolution that the Committee on Library be instructed to consider the question of celebrating the centennial constitutional anniversary in 1889, and read therewith a memorial requesting the establishment of a permanent exhibition at Washington, D. C., by the sixteen American republics.

A short time ago a new metal was discovered by a German and termed Germanium. It is now reported that an Austrian has discovered a new element and it is called Austrium. We have already Norwegium and Scandium. What are the chemists in the country doing all this time? Shall it be said that America with all its vast mineral resources and enterprise cannot add another —Americanum?

Our Richmond religious newspapers, every one of them without exception, contain advertisements of quack medicines, and some of them of the vilest character; at least they all did a few months ago, for we obtained a copy of each of them and examined their advertising lists. Now what excuse can be made for them? They denounce vice and fraud in one column, and advertise it for a money consideration in another, and thus try to "appear to be saints when most they play the devil."—Southern Clinic.

S. W. Perry opened a drugstore in Worcester, Mass., Jan. 18, 1886, and advertised in the local daily papers that he would sell patent medicines and prescriptions at one-half the usual price, and also that he had all sorts of wines and liquors for sale on draught and in bottles. On the 5th of February he was fined $50 for selling liquor without a license. Thereafter the advertisement of the liquors failed to appear, but on April 27 Messrs. Smith, Doolittle & Smith made public announcement of their application for a license to sell intoxicating liquors as druggists of the sixth class in the store of Perry W. Smith. This application was refused. The Worcester Pharmaceutical Associ-

ation has unanimously resolved that the action of Smith, Doolittle & Smith, in opening a retail drugstore in the guise of a retailer and waging a guerilla competition in the manner just described, was justly reprehensible.

Judge: "Why were you, seemingly a respectable boy, guilty of petty larceny?" Scotch Lad: "Weel ye see I had a bit pain in ma side and ma mither tauld me tae gang till the dochtor's and tak' something." Judge: "But she, didn't tell you to take an eight-day clock." Scotch Lad: 'There is an ould proverb which says, 'Time an the dochtor cure a' ills' and sae I thocht."

The General Drug Department of the New York City Department of Charities and Corrections, of which Chas. Rice, Esq., is assistant superintendent, at present located in Bellevue Hospital, is to have a new building on the grounds of that institution. The Drug Department supplies pharmacopœial preparations for the thirty-three charitable and correctional institutions of the city of New York.

The meanest medical journal in the land (and medical journals are not all criterions of decency) would scorn to accept some of the advertisements of the average religious paper. The unscrupulous advertiser needs not steal the livery of heaven, so long as he is permitted to pay advertising rates.—Weekly Med. Review. A glance at some of the advertisements in the Review reveals a decided case of the pot calling the kettle black.

Mayor Haines recently said to the New Jersey Pharmaceutical Association: "Recently in the city of Chicago there were individuals who made an attempt to interview a pharmacy. The returns are not yet all in, but of one thing you may rest assured, and that is that those who are left know a great deal more than they did before they commenced, and that in the future a full-sized pharmacy in a healthy condition will prove fully as dangerous as the police armed with revolvers, especially if samples are free."

Messrs. Coffin, Devoe & Co., the popular paint and oil house, Chicago, have published an interesting and handsome volume upon "Exterior Decorations." It discusses the principles on which colors should be arranged to produce harmonious decorative effects. In these days when æsthetic homes are rising on every side, the book cannot fail to be of great value to the architect, builder and painters, as well as to present or prospective owners of homes. It contains numerous illustrations, and is issued at $5.00.

A physician prescribed beef tea for a patient, giving the following directions: Inclose the finely-chopped meat in a glass bottle, then boil by placing the whole in a pot of water. The directions were carried out as far as the boiling the bottle of meat in the pot of water was concerned. But instead of then mixing the finely chopped boiled meat with water and giving it the patient, the lady gave the sick person the hot water in which the bottle was boiled, who said that she hadn't tasted anything so good in a long time.

The failure of the Illinois Pharmaceutical Association to indorse the recommendation to abolish the internal revenue tax on alcohol is significant. This very important question has been brought prominently before the various pharmaceutical associations every year, and a committee has usually been appointed to co-operate with the committee of the National Association to petition Congress for a reduction of the tax or its entire abolition. But at the meeting just closed for the first time appeared a decided feeling against a reduction of the tax. The opposition based its action upon the theory that retail druggists had little or nothing to gain from the proposed reduction.

OHIO MORPHINE LAW.

Following is the text of the law recently enacted in Ohio regulating the sale of morphine:

SECTION 1. Be it enacted by the General Assembly of the State of Ohio, That it shall not be lawful for any person other than a wholesale druggist or other dealer in drugs and medicines to offer for sale at wholesale, or for any person other than a registered pharmacist or registered assistant pharmacist to sell or offer for sale at retail morphine or any of its salts in this State; and it shall be unlawful for such persons to sell or offer for sale morphine or any of its salts in any bottle, vial, envelope or other package, unless the same shall be wrapped in a scarlet paper or envelope; and all bottles or vials used for the above purpose shall contain not more than one dram each, and shall have, in addition to said scarlet wrapper, a scarlet label lettered in white letters, and same must be upon both vial and wrapper when vials are used, plainly naming the contents of said bottle; and further, that no person shall have the right to change any preparation of morphine from its original package to any other receptacle whatever for the purpose of retailing or dispensing therefrom, but it must be retailed or dispensed only from the original package with scarlet wrapper and scarlet label as aforesaid.

SEC. 2. That any one violating the provisions of the above section shall be guilty of a misdemeanor, and on conviction thereof shall be fined not less than ten nor more than fifty dollars, at the discretion of the court, for each and every violation of the preceding section.

SEC. 3. That all laws and parts of laws in conflict with this act be and the same are hereby repealed.

SEC. 4. This act shall take effect and be in force from and after September 1st, 1886.

A permanent and *safe cure* for all diseases.—The Judge.

SPECIAL ASSOCIATION EDITION OF

THE WESTERN DRUGGIST.

VOL. VIII. No. 6. [EXTRA.] JUNE 24, 1886. Subscription Price, $1.00 per annum. G. P. ENGELHARD & CO., Chicago.

OUR SPECIAL EDITION.

The unprecedented conjunction of State Pharmaceutical Associations in the months of May and June this year required, in justice to the policy of the WESTERN DRUGGIST, that we issue this special complimentary edition in order that the reports of proceedings might be given with ample completeness and still not encroach upon the departments of its regular issue.

We present it also as an expression of our appreciation of the national circulation to which the WESTERN DRUGGIST has attained. Provincial at first in its ambition, its reception in all States where introduced has been so spontaneous and cordial that its policy has become national as the scope of its title is continental. It now ranks among the foremost technical journals of the world in point of circulation, which in the Western States is universal, and in the East and South general and rapidly growing.

Over twenty thousand copies of this edition are issued, requiring nearly four tons of paper. Its many columns of closely-printed reports constitute, we believe, the largest amount of reading ever given by any pharmaceutical journal in a single issue. At all the principal conventions we have had a special stenographer and reporter, and while no doubt some defects will appear, we feel confident the work is exceptionally accurate and complete.

To readers who are not subscribers we desire to state that the regular issue of the WESTERN DRUGGIST consists of not less than one hundred pages in this form, and that their subscriptions would be acceptable. The price is only one dollar per annum. Representative opinions from subscribers as to the value and merits of the journal are given in our advertising columns.

The carelessness with which proposed pharmacy laws are drawn by non-experts was well illustrated in New York. A bill which passed the New York senate and assembly, despite the protests of the State association committee, was intended to restrict the sale of opium, but, through using morphine synonymously with opium, gave unlimited license. The legislature pandered to popular prejudices against pharmacists in passing the bill, but the Governor vetoed it.

The Kansas association devoted a large share of its session to the liquor question. While there was a general agreement that the liquor law did not exert a beneficial influence on the profession, Mr. Totten's remedy proposing to take liquor selling completely out of the hands of druggists was rejected as being too radical and casting a stigma on pharmacy. The Kansas problem is anything but a simple one; liquor being sold in some instances by the aloon drugseller as an offset to cutting prices on drugs, etc. The druggists of Kansas, however, evidently occupy a high position in the estimation of the people, for the prohibition element, at one time very inimical, has given evidence of its confidence A perplexing element in the present problem is thus removed and the profession is left to work out its solution free from political trammels.

The exchange of delegates between medical and pharmaceutical associations is becoming noticeably frequent. It is certainly to be hoped that the practice will extend, since many mutual misunderstandings between the two professions would be removed by an interchange of views in this manner.

We are under obligations for courtesies extended by Secretaries J. W. Colcord, of the Massachusetts Association; Clay W. Holmes, of the New York; J. A. Miller, of the Pennsylvania; M. L. Byers, of the Maryland; Lewis C Hopp, of the Ohio; R. H. Van Sant, of the New Jersey; J. T. Moore, of the Kansas; T. N. Jamieson and L. C. Hogan, of the Illinois; E. R. Beckwith, of the Virginia, and W. S. Getty, of the Minnesota Association; also to Prof. J. N. Hurty, of Indiana, and Albert E. Ebert, of Illinois.

Even the tramps of Boston are cultured people. One gave evidence of this by visiting in the capacity of a "frightful example," the Massachusetts Association meeting and insisting on music by the band.

Among the successes in pharmaceutical legislation is the New Jersey pharmacy law. The Virginia law, defective as it is, is an entering wedge likely to have valuable results. In Indiana the drift of pharmaceutical sentiment seems to be against a pharmacy act, and in favor of a stricter liquor law. In Maryland, Pennsylvania and Alabama the attempts to enact a pharmacy law have proven unsuccessful. The red-label morphine law seems to have been pretty generally regarded with favor, albeit the essence of the law is a long dormant idea revived.

The question of whether the responsibility for purity of drugs lay on the retailer or jobber was raised at the Massachusetts Association meeting. The question was not decided lest the decision be brought into legal precedent. Every retail pharmacist owes it to his profession to secure the purity of his drugs. The jobber is legally responsible for the drugs sold, and the retail pharmacist for the non-detection of defects.

The proposed plan of reorganization of the N. R. D. A., was adopted by many of the Eastern and Western State Pharmaceutical Associations, in most Southern associations but in a few Northern it did not seem to meet with favor; one objection was the vagueness of the proposal regarding payment of expenses. There was also a feeling expressed that the State Associations as a body only should be represented rather than both States and individuals. The conventions were, as a rule, well attended and the proceedings characterized with more than ordinary variety, interest and importance.

For portions of our reports of the Southern associations we are indebted to the enterprise of the Drugman, of Chattanooga, Tenn., and in other States to the local press.

GEORGIA PHARMACEUTICAL ASSOCIATION.

The Georgia Pharmaceutical Association was called to order at 10 A. M., April 13, 1886, in Armory Hall, Savannah, Ga, by Dr. H. G. Hutchison, of Atlanta, the president of the association, who, in his opening address, congratulated the association on the evident interest of the pharmacists of the State in its proceedings, as shown by the number present. He called attention to the need of concerted action among pharmacists, the lack of which had resulted in laws detrimental to pharmacy. "For illustration," he said, "take the article of alcohol. The internal revenue tax on distilled spirits is 90 cents per proof gallon of 100 degrees Government gauge. Commercial alcohol is 188 degrees. Hence its tax per gallon is represented by 188x90—$1.6920, which is about five times the cost of production. Not content with imposing the burden of 1.69 per gallon upon all who use this indispensable element in a drugstore, but, as if in joint conspiracy to wrong us, our National and State Governments respectively impose an annual license of $25 and $50 upon every druggist who keeps in stock an article which enters into the composition of nearly every tincture, every extract, every ether and every elixir he dispenses. Thus we have been taxed for years by legislation so manifestly unjust, that had the druggists of the various States been united in their efforts for its repeal we would long since have had free alcohol, free from even the imposition of a license tax, whether State or National." He then discussed the recent Georgia law requiring preparations of morphine to be specially wrapped and labeled, and urged that uniformity in laws of this character be secured through the influence of the American Pharmaceutical Association. He at the same time urged that the use of such labels and wrappers should not diminish the number of precautions already adopted by pharmacists in dispensing morphine

Hybrid patent medicines were next discussed, their iniquitous results exposed and their deceptive nature denounced.

He strongly denounced the "Cheap Drug Craze," and pointed out that it was debasing to pharmacy as a profesion.

The question of insurance was next discussed. He demonstrated that insurance rates on drug stocks were exorbitantly high when the real risk was considered. He then (in absence of a necrological committee) described in fitting terms the loss Georgia pharmacy had sustained by the death of Dr. Josiah Bradford.

On motion of Mr. Durban, of Augusta, Messrs. S. C. Durban, J. C. Huss and O. Butler were appointed a committee of three to report on the President's address.

The Committee on Papers and Queries was granted further time, as was also the Committee on Legislation.

The treasurer's report was referred to a committee, consisting of Messrs. J. D. Chase, P. C. Magnus and H. R. Slack, which, after an examination, declared "them all correct and kept in a business-like manner."

The regular order of business was, on motion, suspended and the reading of queries taken up.

Mr. H. R. Slack, Jr., replied to Query No. 7. A volunteer paper on Coca, and a query by Dr. J. S. Pemberton, were read by the secretary.

Mr. J. W. Rankin, of the National Wholesale Drug Association, made some remarks on the unjust tax on alcohol, after which the association adjourned till 3 P. M.

AFTERNOON SESSION.

The Committee on Nominations reported as follows: J. W. Stanford, President; P. C. Magnus, First Vice-President; F. J. Moses, Second Vice-President; L. C. Strong, Third Vice-President; T. L. Massenburg, Treasurer; H. R. Slack, Jr., Secretary.

These gentlemen were unanimously elected.

The retiring President, Dr. Hutchison, introduced the new officers to the association.

The Committee on Queries made the following report:

1. What would be the best plan for preventing decomposition of Syr. Iod. Iron; and what is the best formula for making it? 2. How do the formulæ for officinal Syrups of the Pharmacopœia of 1880 compare with those of 1870? 3. Suggest the best plan for the prevention of gelatinization of Tr. Kino. 4. How does sweet spirits of nitre made from the concentrated spirits compare with the requirements of the U. S. P.? 5. Is the selling of medicines, commonly known as physicians' formulæ, professionally injurious to the physician or to the pharmacist? 6. What steps should be taken to encourage more interest in our State meetings? 7. What effect will prohibition have on the practice of pharmacy? 8. How do the Seidlitz Powders in the market compare with the requirements of the U. S. P.? 9. Do retail druggists prepare their tinctures and syrups from fluid extracts?—if so, how will they compare with those made by the regular process? 10. Has glucose proven itself to be a good pill excipient? L. W. Hunt, H. K. Main, D. B. Holt, Committee.

On motion, this report was adopted and ordered re-read at the second day's meeting.

The Committee on Constitution then made its report.

A resolution offered by Mr. Land through Mr. Park in relation to amendments of the pharmacy law was on motion referred to the Board of Pharmaceutical Examiners.

Mr. Case gave notice that he would present an amendment to section 2 of the Constitution in relation to membership.

Mr. Rankin offered an amendment to article 4, section 4, part 4, so that it should read: "The President's annual address shall now be read and referred to a committee for action," which was adopted.

Dr. Hutchison offered the following resolution:

Resolved, That the Committee on Trade Interests be requested to have such legislation enacted as will prevent the putting up of poisonous medicines or vending the same by any but licensed druggists.

After some general discussion the resolution was adopted.

Mr. Rankin, chairman of the Committee of Legislation, reported that attempts had been made to change the tax on alcohol, but without success.

Messrs. P. C. Magnus, G. D. Chase and F. J. Moses were then appointed a committee to report on the various samples and papers offered in competition for the prizes of the association.

The Committee on President's Address made a favorable report on its recommendations, which was adopted.

The association then adjourned till 8:30 A. M. next day.

SECOND DAY.

The association met at 9 A. M. Mr. Behre read a paper on "Deodorization of Iodoform." Mr. Rankin read an answer to Query 9. The Committee on Prizes reported as follows:

Premium of $15 to J. M. Horsey, for fluid extracts.
Premium of $25 to J. M. Horsey, for best specimens of potassium iodide, silver nitrate, etc.
Premium of $10 to H. R. Slack, Jr., for best specimen of, and essay on, syrup of hydriodic acid.

It was also recommended that the essay be published in the transactions. The report was adopted.

Mr. Rankin moved that the next meeting of the association be held on Cumberland Island the second Tuesday of April, 1887. Carried.

Mr. Case then offered the following amendment to section 2, article II., of the Constitution: "No person shall become a member of this association until he shall have made application in writing; the same shall be voted on by ballot, a majority ruling. Upon being elected a member of the association he shall at once sign the Constitution and By-Laws and pay the annual fee," which was adopted.

Mr. Parks offered the following resolution:

Resolved, "That hereafter all officers of this Association shall be nominated by some member on the floor, and elected by ballot separately, and such portions of our by-laws and constitution as conflict therewith be expunged."

Mr. Rankin said that to do away with the Committee on Nominations was to open the door for electioneering for office, which would prove intolerable.

Mr. Parks explained that in offering the resolution he recognized the fact that the men most fitted to be officers were always on the Nominating Committee, and of course they would not nominate themselves; but as his resolution was objectionable he would withdraw it.

On motion of Mr. Horsey, the new list of queries were re-read and accepted, as follows: 1. E. J. Keifer; 2. J. N. Horsey; 3. D. T. Green; 4. P. C. Magnus; 5. Theo. Schuman; 6. D. C. Durban; 7. J. W. Rankin; 8. C. H. Behre; 9. Dr. F. C. Huss; 10. T. S. Bradfield.

The report on that part of the president's address which dealt with patent medicines and "cheap" drugs was then re-read. On motion of Dr. Hutchison, Messrs. Durban, Moses and Horsey were appointed a committee of three to bring the matter before the State Medical Society.

Mr. Rankin offered a prize of $20 for the best practical plan to prevent the cutting of prices of drugs and medicines at retail, to be submitted in writing; all plans to become the property of the association. Also a premium of $20 for the best line of perfumery, consisting of extracts and colognes manufactured by a Georgia apothecary. Samples to be not less than four fluid ounces of each kind submitted.

P. C. Magnus offered a premium of $20 for the best line

of chemicals and fluid extracts made by a clerk in any retail drugstore in the State.

On motion of Miss Lucy King, Messrs. P. C. Magnus, J. W. Rankin and C. H. Behre were appointed a committee to co-operate with the committee appointed by the American Pharmaceutical Association to collect unofficinal formulæ.

The following standing committees were then announced:

"Papers and Queries—Case, Behre and Taylor. Executive Committee—Rankin, Land and Parks. Business Committee—Durban, Loyless and Halliday. Committee on Trade—Hutchison, Rankin, Durban, Bradfield and Mills. Delegates to American Pharmaceutical Association—John Ingalls, Theo. Schuman, J. C. Solomon, H. R. Slack, Jr., and J. W. Rankin. Delegates to Retail Druggists' Association—Magnus, Loyless and Brunner."

Letters of regret at absence were then read from Dr. J. S. Pemberton, Theo. Schuman and W. A. Tayor, of Atlanta; T. L. Massenburg, of Macon; I. Zacharias, of Bainbridge, and J. J. Cassels, of Thomasville.

The association adjourned to meet on Cumberland Island the second Tuesday of April, 1887. The members present at the meeting were: M. H. Taylor and H. J. Lamar, of Macon; L. C. Strong, E. J. Keefer, W. B. Shruptine, E. K McKoy, W. M. Mills, J. A. Solomon, O. Butler, David Porter, P. B. Reid, J. W. Weichselbaum, W. F. Reid, Ed A. Abbott, F. L. Cawley, R. L. Weed and W. A. Pigman, of Savannah; P. C. Magnus, J. W. Rankin, W. A. Loyless, F. C. Huss, H. G. Hutchison and W. S. Parks, of Atlanta; Geo. D. Case, of Milledgeville; J. W. Stanford, of Cuthbert; D. C. Durban, F. J. Moses, J. M. Horsey and W. C. Baker, of Augusta; H. K. Main, of Dalton; H. R Slack, Jr., of Lagrange; J. M. Benton, of Dalton; W. F. Halliday, of Harlem; T. H. Morgan, of Cochran; Isaac Mobbett, of Quitman, and Dr. F. B. McRae, of Jesup

MISSISSIPPI PHARMACEUTICAL ASSOCIATION.

The Mississippi Pharmaceutical Association met at Jackson May 19. The meeting was called to order by Mr. D. E. Holt, and on motion, Dr. Byron Lemly, Jackson, was elected president pro tem. and Mr. J. B. Dudley secretary pro tem.

The secretary's report was read and accepted. Treasurer Benning's report was read and referred to an auditing committee: Messrs. D. E. Holt and R. K. Ledbetter, of Jackson. The chairman of the Legislative Committee, Mr. J. W. Eckford, was in Europe, and the other members reported progress.

Mr. D. E. Holt, from the Committee on Trade Interests, also reported progress. He also read an answer to the query: "How shall prescriptions be prepared for extemporaneous use in prescriptions?"

The following officers were then elected: President, Dr. Byron Lemly, Jackson; Vice-President, D. E. Holt, Terry; Secretary, H. F. West, Natchez; Treasurer, J. B. Dudley, Utica; Executive Committee, Messrs. S. P. Bloom, Wesson, and R. R. Ledbetter, Jackson. The other committees remain unchanged. A Committee on Conference with the State Medical Society was appointed: Messrs. R. R. Ledbetter, Jackson, and S. S. Spencer, West.

The association then adjourned to meet at Jackson the third Wednesday in May, 1887.

VIRGINIA PHARMACEUTICAL ASSOCIATION.

The Virginia Pharmaceutical Association was called to order in Alexandria, May 11, at 8:30 P. M. The Hon. Chas. E. Stewart delivered the address of welcome.

He said that he congratulated the people of Alexandria that the pharmacists were to hold their annual meeting and to attend upon the deliberations of the State Board of Pharmacy, lately organized under the provisions of the new pharmacy law. The people of Virginia have at length realized that the time has come when all pharmacists of the State and those who administer to the sick should comb ne to put out the worthless and see that none but skillful and experienced men shall be permitted to practice a profession which bears such an important relation to the community at large. He congratulated the druggists of the State that they had at last come up to the point reached by every other profession. The lawyer cannot practice without an examination, and a license; the physician must exhibit evidence of his ability, and have like authority to practice—and within the past few months the pharmacists have practically accomplished the object for which they have long striven, in securing such a legal enactment as will enable the people to have only those who are qualified by education and experience to compound and dispense medicine. The time has come when men unfit, by a want of education and training, would not be permitted to administer to the sick.

Mr. Thomas responded in fitting terms. The following resolution, offered by Mr. C. A. Santos, was then carried:

Resolved, That invitations be extended to the profession and officers of the National College of Pharmacy and the Pharmaceutical Association of the District of Columbia, also to the Professors of the Theological Seminary and Episcopal High School, at Alexandria, to attend the sessions at this place, and the secretary be requested to send invitations by the evening mail.

The meeting then adjourned, to meet at 9:30 A. M.

Second Day—Morning Session.

The meeting was called to order by President Baker, who delivered the following annual address:

PRESIDENT'S ADDRESS.

We stand to day upon the threshold of a new order of things, surrounded by and protected in a measure by the Pharmacy Act of 1886. For four long years we have labored to secure this law and we have succeeded. That the bill does not come to the standard of providing efficient administration of the duties of our profession by competent pharmacists, all must admit. But we make the best of it we can, and whatever our prejudices may be, we should lay them aside and determine that to those who are incompetent or inexperienced we will exercise the greatest amount of liberality consistent with the purposes and spirit of the law. We are told that an appalling ignorance exists on the part of druggists and their clerks to the peril of the public. This may be true. It bears something of plausibility, for in examining the reports of various Boards of Pharmacy, we find that not one in twenty passes a first examination. This may happen from the standpoint adopted. There never has been a perfect druggist, and there never will be. The science of pharmacy is more or less connected with all the natural sciences and a perfect acquaintance with them is very rare. A good pharmacist should thoroughly understand the principles of his profession as well as the responsibilities of his business, and he should have a good practical experience in all its details, without which technical knowledge does not amount to much. The enactment of the recent law will tend to produce a better class of druggists and most likely prevent many incompetent persons from opening stores as a business enterprise. That this may be accomplished our duty is to support the law, and use our individual efforts to promote thorough professional education. As a member of the Board of Pharmacy for this State I think I can safely say that the examinations will be practical, and a person will be expected to know the routine and practice of preparing medical prescriptions, and have a general knowledge of medicinal articles and their doses, so that errors in prescriptions may be more likely detected. No person will be required to be a competent analytical chemist nor a learned classical scholar, but he will be expected to read a prescription accurately, give his reason for preparing it in a particular manner, and know if the remedy is safe in the quantity prescribed. Persons of ordinary sense and education need not fear the examination, and I am sure it is to be hoped and expected that all members of the fraternity will cheerfully comply with the provisions of the law, so as to render the duties of the board as light as possible.

Our sessions generally have been poorly attended, and a few had to bear the burden and heat of the day. I trust henceforth it will be the pleasurable duty of all to make these meetings full in attendance and contribute to the success of our association. Each is then in a measure responsible for its continued success and in a business point of view. Our financial prosperity should be first considered; many of our members are delinquent, some will have to be dropped, others put off till the annual meeting their payment. These dues are payable in advance, and each one ought to feel it his duty to remit to the treasurer as soon as possible after receiving his account. In reference to changing the constitution as to our time of meeting, I regard a change as necessary; it seems to be the expressed wish of many, but I do not think it prudent to have the time of meeting in doubt. We should observe some definite day, let come what might. Each could prepare for it without inconvenience. It is a matter of deep regret to observe that the urgent appeal made at the beginning of my term, couched in such forcible language, in reference to local organization, should have been so totally disregarded. In union there is strength, and wherever there is a healthy local association, there is harmony and good will. By entertaining a sufficient amount of professional courtesy, you elevate the standard of your profession above that of the merchant. I would appeal again that every county and town form societies.

The business of the past year has not been profitable. Failures on the one hand and scarcity of work has prevented the pharmacist from realizing a fair percentage upon his stock, and the momentous question to us, not only to us but to all, is, what shall be done? I am glad to be able to announce that, in view of this general depression, but few changes have occurred among the pharmacists of the State. The profession seems to have restricted its operations within healthful bounds. I call your attention to the provision of the pharmacy act referring to the sale of adulterated medicines. The unlimited sale by merchants of so-called domestic remedies makes it obligatory upon you to ferret out, and report all cases of sophistication and adulteration to this Association or Board, or the proper State official. I would suggest that a committee be appointed—one from each congressional district represented—which shall be known as the committee on adulterations and sophistication, and shall report at each annual meeting all violations of this character, whether occurring in the bounds of this association or not.

At the last meeting I presented the Norfolk and Portsmouth Formulary of unofficial formulas, and the book was very favorably received and indorsed by this association.

He then suggested the offering of prizes for the best essays, and called attention to the death of Mr. Jesse Child, of Richmond.

The address was referred, on motion of Mr. T. Robert Baker, to a committee consisting of Messrs. C. B. Fleet, E. C. Jackson and S. J. Turner.

Secretary Beckwith then made the following report:

SECRETARY'S REPORT.

He reported that there were now 245 members. He suggested that a Committee on Membership, representing every section, be formed to thoroughly canvass the State. Every member should personally solicit the pharmacists of his section to become members. The re-

cently passed pharmacy law would need much revision, and for this reason the members of the Board of Pharmacy should constitute the Committee on Legislation. All without three years' experience, would, under the act, be required to pass an examination, and as a means of preparing them for this a plan similar to that of the National Institute of Pharmacy should be adopted. The association would do well to adopt uniform blanks for the sale of morphine. The name of the association would need to be changed from Virginia State to Virginia Pharmaceutical Association in accordance with the act of incorporation. At this meeting the association would have to select five members, from which the governor had to appoint one to fill the vacancy in the Board of Pharmacy. Messrs. Jesse Childs and J. M. Walton had died since the last meeting.

Treasurer F. H. Masi reported a balance on hand of $302.37.

Col. J. B. Purcell offered the following resolution, which was adopted:

Resolved, That this Association requests the Representatives in Congress from this State to use their best efforts to obtain legislation by the Congress of the United States that will allow a *rebate* on alcohol used in medicines, the arts, and manufactures, other than for use in beverages, and also to obtain the abolition of the special tax as wholesale and retail liquor dealers on druggists who sell only alcohol.

Prof. P. W. Bedford, of New York, briefly discussed the benefits of organization, and advocated the encouragement of the formation of drug clerks' associations.

Mr. J. W. Thomas gave a brief outline of the objects of the N. R. D. A. The Secretary, on motion, sent fraternal greetings to the Alabama, Tennessee and Nebraska associations.

A resolution offered by Mr. C. B. Fleet, directing the Committee on President's Report to devise a plan by which payment of dues to the association should entitle a member to registration by the Board of Pharmacy, was then adopted.

Mr. T. Robert Baker desired the members to recollect the duty of reporting violations of the pharmacy law to the Board of Pharmacy.

Messrs. W. D. Hudson, A. Buff and J. B. Purcell were appointed a Committee on Necrology.

Chairman Taylor, of the Committee on Legislation, reported that every member of the legislature had been seen or addressed by letter to secure their support. The committee felt under deep obligations to Hon. J. Harvey Black, of Montgomery County, and Hon. W. S. Lorenstein for their assistance in passing the bill; to Drs. Hunter, McGuire, C. W. Brock and L. B. Edwards, who worked faithfully before the House Committee for the bill, and to the State Medical Society. Suitable resolutions of thanks in this connection should be passed by the Association.

The report on motion was accepted and the Committee continued.

On motion of Mr. Baker resolutions were passed thanking Hon. J. Harvey Black, Hon. W. S. Lorenstein, Drs. Hunter, McGuire, A. W. Brock and L. B. Edwards, and the State Medical Society for their aid in passing the law.

An amendment to the constitution, article 7, was then passed. Mr. Blair read a paper, prepared by Mr. Ramos, opposing the metric system, after which the association adjourned.

EVENING SESSION.

The meeting was called to order by the President, and the report of the delegates to the A. P. A. was read, followed by the report of the Committee on the Miller Manual Labor School by Mr. C. A. Santor, of Richmond.

Mr. J. L. Kellar, of Virginia University, then read an answer to "What is the relation between atomic weight, specific gravity and specific heat of elementary substances?"

The following resolutions, offered by Mr. Wills, of Charlotteville, were then adopted:

WHEREAS, The national internal revenue tax on alcohol, besides tending to interfere with its use in the arts and manufactures, is burdensome (by reason of the largely increased price of the various remedies in the preparation of which it is used) in a painful degree to those whose condition require the medicines containing it or in the manufacture of which it is used. And

WHEREAS, It is believed that the removal of said tax would be in the best interest of the citizens and art and manufacturing interests of our whole country.

Resolved, That the Senators and Representatives from Virginia at the National Capitol be requested to exert all their influence at their command to have said tax removed, and if that cannot be done to have a provision made for such rebate on all alcohol used in manufacturing and preparing medicines, and also for manufacturing and mechanical purposes as will reduce the cost of those using the alcohol for the purposes herein indicated.

Resolved, That a certified copy of these preambles and resolutions be forwarded to each of our legislative representatives in Washington

A communication from Mr. Sayre, of the N. R. D. A., was then read and referred to a committee consisting of Messrs. Baker, Mills and Masi.

The following resolutions, offered by Mr. Jeffries, were then adopted:

WHEREAS, The Legislature of Virginia has incorporated our Association as the Virginia Pharmaceutical Association.

Resolved, That we change the name of our Association in conformity with said law.

The following officers were elected:

President, Mr. Hugh Blair, Richmond; First Vice-President, Dr. Craighill, Lynchburg; Second Vice-President, Edgar Warfield, Alexandria; Third Vice-President, Jos. A. Jeffries, Warrenton; Fourth Vice-President, T. M. Wills, Charlottesville; Secretary, E. R. Beckwith, Richmond; Treasurer, F. H. Masi, Norfolk; Corresponding Secretary, T. Roberts Baker, Richmond; Executive Committee, T. F. Knock, Petersburg; C. A. Santos, Norfolk, and E. C. Hamner, Lynchburg.

The association then adjourned.

Third Day.

President Baker called the meeting to order at 9:30 A. M. The Committee on President's Address and Secretary's Report reported as follows:

The members should aid the Board of Pharmacy in detecting violations of the law. The committee was not prepared to make recommendations regarding unofficinal formulæ. A committee of three should be appointed to decide as to prize essays. Local committees of one in each section should be appointed to solicit members. Amendments of the pharmacy law should be left to the discretion of the board. The methods of study of apprentices needed regulation, but the committee were not prepared to recommend any system. The question of uniform morphine labels should be left to private enterprise. The pharmacy law should be amended as to make membership in the association desirable. Membership should entitle to registration and the fees of the board be paid by the Association. Article 3, Section 1, the constitution, should be amended by striking out the words "male" and "of twenty-one years of age" and inserting "approved for registration by the State Board of Pharmacy," so as to make the section read any person approved for registration by the State Board of Pharmacy, of good moral and professional character, etc., is eligible to membership. Signed, C. B. Fleet, E. C. Jackson, S. J. Turner.

This report was adopted, except the last part relating to the constitution, for which the following was substituted and laid over for one year.

Resolved, That the word *male* shall be stricken from the constitution of this Association.

Prof. Bedford, of New York, spoke on the subject of "Alkaloids," after which Mr. Fleet, of Lynchburg, read a paper on "Training young men for the drug business."

Richmond, and the second Tuesday in May, were then selected for the time and place of the next meeting, and Mr. Polk Miller was appointed local secretary.

The following resolution, offered by Mr. Jeffries, was then adopted:

Resolved, That Mr. C. B. Fleet be requested to prepare the outline of study for students of pharmacy in Virginia as contemplated in the report adopted by this body on that subject.

Mr. Aug. Buff, of the Committee of Necrology, offered resolutions on the deaths of Mr. John M. Walton and Jesse Child, of Richmond, which were adopted.

On motion of Mr. Thomas, the proposals of Mr. Sayre for reorganization of the N. R. D. A. were adopted and $25 appropriated for expenses on condition the association be formed.

The chair was given power to appoint a Committee on Membership after the adjournment of the association.

The following gentlemen were then elected to membership, after which the association adjourned:

Benjamin Mason, Herndon; Edward Roethlein, Lynchburg; John D. H. Lund, Alexandria; Frank W. Poindexter, Charlottesville; W. F. Creighton, Alexandria; Samuels & Lunt, Alexandria; Frank Willton Jones, Bridgewater, Rockingham County; M. M. Lewis, Fredericksburg; J. B. Taylor, Ivy Depot; Dr. A. W. Eley, Suffolk; Wm. A. S. Conrad, 421 South Pine street, Richmond; Thomas S. Howell, Lynchburg; Merton E. Church, Fall's Church; Ryland Coleman Williams, Manchester; R. W. Broadnax, Jr., Manchester; C. W. Eaton, 424 South Pine street, Richmond; James L. Avis, Harrisonburg; L. A. Brown, Upperville, Fauquier County; Charles W. Dickinson, Carterville; T. B. Miller, Danville; Wm. P. Poythress, Richmond; Thomas N. Curd, 2001 Venable street, Richmond; B. B. Perkinson, Petersburg; Jos. M. Burke, City Point; Watts B. Dillard, Salem; Wm. Hopewell, Edinburg.

KENTUCKY PHARMACEUTICAL ASSOCIATION.

The ninth annual meeting of the Kentucky State Pharmaceutical Association was called to order, in the absence of the president and vice-president, by Mr. J. W. Fowler. Mr. J. W. Fowler was then elected President, and C. A. Porter, Secretary, Mr. Cook, the regular secretary, being absent. Mr. Dan. Hamill, of the Bowling Green bar, delivered an address of welcome on behalf of the Bowling Green pharmacists, in the course of which he paid the following tribute to pharmaceutical associations:

To your society and similar ones in other States is due the credit of devising means whereby the druggist has been elevated from a mere vendor of pills and cheap decoctions of mean whisky, water and sugar, sold under the cognomen of patent medicines as 'O. K. Bitters,' etc., to a man of scientific attainments who, in his laboratory, with skilled hands and improved apparatus, compounds a thousand different preparations pure and susceptible of the most happy effects and who sell the purest 'Bourbon,' and only upon the prescription of a reputable practitioner. We hope to see the day when by appropriate legislation the drug trade will be wrested from unskilled hands who are morally and mentally unworthy of the trust and placed in the hands of

those who are competent and have too high an ideal of their profession to be retail liquor dealers in "local-option villages."

Prof. Goebel responded briefly on behalf of the association.

Secretary Porter read President Evans' address.

He alluded briefly to the loss the Association sustained by the death of Mr. Jefferson Orley. He stated that only one-sixth of the thousand druggists of the State were members of the Association and suggested that the State be divided up among the members of the Executive Committee who should be instructed to use their individual personal efforts to increase the membership of the Association. He called attention to the passage of the red label law by the Kentucky Legislature and advised that the secretaryship and treasurership be constituted permanent offices. He called attention to the private formula practice indulged in by certain physicians and their druggists, and said that it should be characterized as a direct violation of a code of ethics that should exist, and it was calculated to engender unprofessional competition and disreputable jealousies, for pharmacists were all supposed to be members, to share an interest in common, of a band to hold in social union and order, and all who practice by the same methods and system are according to custom supposed to be guarded by the same code in their government; believed one druggist had a right to demand such formulas when needed. Further he did not think the druggist of the present date should be required by a physician's hobby of a few weeks' duration to carry a half dozen lines of fluid extracts, pills, elixirs, etc. Few physicians would really object to the unbiased judgment of the experienced pharmacist in preference to the biased opinion of the interested manufacturer, and he thought formularies, printed in former proceedings of the Association would be adopted by fair-minded physicians if presented by the druggist in that connection. This would do away to a great extent of the above described trouble, and to some extent it would have a tendency to do away with many of the unreliable nostrums of the day. In the first place, it would aid in securing uniformity in this class of preparations, and secondly, nicer preparations would be obtained.

The address was, on motion to that effect, referred to a committee, consisting of Messrs. G. B. Lyne, chairman, T. P. Taylor and E. C. Pfingst.

Mr. Fowler, being chairman of the Executive Committee, called Mr. Arthur Peter to the chair and reported the following applications for membership:

S. U. Wamacut, Barboursville; F. G. Voight, Louisville; J. L. Whitehead, Williamsburg; Beach Hamil, Mumfordsville; Mr. Crutcher, Nicholasville; E. S. Frey and F. L. Armstrong, Louisville; T. V. Worten, Smith's Grove; G. E. Townsend, H. E. Winane, T. J. Board, G. B. Lyne, Bowling Green; Arthur Peter and T. P. Taylor, Louisville; E. B. Walthall, Horse Cave; J. W. Robb, Woodburn; J. H. Lyne, Henderson.

These gentlemen were unanimously elected.

The secretary, Mr. Jas. T. Cook, made his annual report and tendered his resignation, and the treasurer reported a balance on hand of $160.20. Both reports were referred to the Committee on President's Address. The Executive Committee then reported that, owing to the destruction of Secretary Cook's premises by fire, there had been found some confusion among the records, which had, by careful comparison, been rectified.

Chairman Turner, of the Committee on Legislation, reported that, other than the morphine red label law, no legislation had been attempted.

Chairman Schoettlin reported that the list of queries submitted at the last meeting had been destroyed by fire, and submitted the annexed queries, which were accepted, as follows:

1. What is the best substance to prevent fungoid growths in alkaloidal solutions? Accepted by E. C. Pfingst, Louisville.....2. What is the best vehicle for administering paraldehyde?....3. How does tincture of nux vomica as dispensed in the shops correspond to the pharmacopœia in relation to percentage of extract and alcohol? Accepted by Edward Goebel, Louisville..... 4. What mechanical device is best adapted to fill gelatin capsules with powders?....5. Can the pharmacopœial formula for aromatic syrup of rhubarb be so improved as to yield a clear syrup? Accepted by C. A. Porter, Eminence.....6. What is the intrinsic value of the various brands of rock candy syrup offered by various large sugar manufacturers and do they contain glucose?....7. Can a fluid extract of ginger of pharmacopœial strength be prepared which will not precipitate on addition of water or syrup? ....8. Give formula for elixir of gentian and tincture of chloride of iron which will compare favorably with the manufactured elixir in taste and flavor? ....9. Can the pharmacopœial formula for syrup of hydriodic acid be improved? Both accepted by A. J. Schoettlin, Louisville.....10. What is the best method available to the pharmacist for purifying alcohol recovered from the various preparations in which it has been used? Accepted by R. D. Peyton, Louisville.....12. Give a list of a galenical and chemical preparations, now purchased ready made, which can be most advantageously made by the dispensing pharmacist. Accepted by J. W. Fowler, Louisville.....13. Can fluid extract of ergot be standardized and on what constituent should the valuation be based?....14. Point out the defects of the present state pharmacy. What changes should be made in the law to make it of more practical use to pharmacists of this state? Accepted by J. W. Fowler, Louisville.....15. What advantages, if any, are derived from being a member of this Association? Accepted by Lucy S. V. King, of Chattanooga, Tenn.

Messrs. E. C. Pfingst, Louisville; C. A. Porter, Eminence; W. B. McRoberts, Stanford, and G. B. Lyne, Bowling Green, were then appointed a Committee on Nominations, after which the Association adjourned till 8 P. M.

EVENING SESSION.

The meeting was called to order at 8 P. M. by President Fowler. The Committee on President's Address then submitted the following report:

1. "We highly indorse the statements of the President as expressed in his timely address, and while we commend his suggestions, one and all, at the present time we would advise that no change be made in the constitution. We respectfully recommend that his address be received and spread upon the minutes. 2. We find the treasurer's report correct and recommend that it be received and filed. 3. We would recommend that the secretary's report be accepted and filed, and his resignation accepted." T. P. Taylor and E. C. Pfingst.

Dr. A. M. Parker, of Bowling Green, was then elected to membership. The report of the Committee on Executive Committee's Report was then read and adopted.

Mr. Fowler then read the State Board of Pharmacy's report to the legislature.

The resolutions and plan of the National Retail Druggists' Association, as indorsed by the Rhode Island, Connecticut and Iowa Pharmaceutical Associations were read. The Association indorsed the plan, but consideration of the details was postponed.

The following resolutions, offered by Mr. Porter, were then, on motion, adopted:

RESOLVED, That the Committee on Legislation be instructed to present to the Association at its next annual meeting a bill amending the present pharmacy law, making it more general in its application—or a new bill as a substitute for the present one. 2d. That the Secretary in his call of the next meeting call attention to the fact that such a bill will be before the Association for a toption, and request all druggists to be present at the discussion. 3d. That the Committee on Legislation be instructed to secure from some convenient court the charter adopted by this body——(year, to be ascertained).

On motion, the Association then adjourned till 9 A. M the next morning.

SECOND DAY.

President Fowler called the meeting to order at 9 A. M. G. M. Armstrong, of Empire, and J. E Younglove, of Bowling Green, were elected members. The communication from the N. R. D A. was then brought up, and after some discussion by Messrs. Burge, Schoettlin, Brooks, Mitchell, Turner, J. H. and G. B. Lyne, Mr. E. Goebel offered the following resolutions:

RESOLVED, That the Kentucky Pharmaceutical Association approves of the plan for reorganizing the N. R. D. A. RESOLVED, That the President appoint as a delegate to the Convention at Providence (R. I.), a member of this body whose attendance is assured by his attendance at the American Pharmaceutical Association. RESOLVED, That in view of the vagueness of the clause in the communication from the N. R. D. A. as to a pro rata tax, this Association defer action thereon till a later meeting.

The following resolutions, offered by Mr. T. P. Taylor were then adopted:

"Inasmuch as all the teaching colleges of Pharmacy in the United States have adopted a preliminary examination as to fitness before receiving applicants as students; be it RESOLVED, That in future, members of this Association shall select as apprentices only those having a grammar school education."

Mr. McRoberts then announced that the pure Crab Orchard Spring Salts could be purchased of other persons than the company advertising them.

President Fowler called Mr. Turner to the chair, and read a paper on "Tablet triturates and soluble triturates for hypodermic use," which will appear in a subsequent issue of the WESTERN DRUGGIST.

Messrs. J. H. Lyne, E. Goebel and Wm. Turner were then appointed a Committee on Place of Next Meeting. Messrs. C. Lewis Diehl, R. D Peyton, E. Goe el and T. P. Taylor were appointed delegates to the American Pharmaceutical Association. The committee-report on place and time of next meeting, recommending Louisville, the third Wednesday in May, 1887, was then adopted.

The Committee on Nominations made the following report, which was adopted:

J. W. Fowler, Louisville, President; W. Turner, Bowling Green, Vice-President; A. Peter, Louisville, 2d Vice-President; J. H. Lyne, Henderson, 3d Vice-President; W. B. McRoberts, Stanford, Recording Secretary; E. Goebel, Louisville, Corresponding Secretary; J. J. Brooks, Treasurer; Executive Committee, Dr. Vincent Davis, chairman; E. C. Pfingst and T. P. Taylor, Louisville. Business Committee, C. S. Porter, Eminence, chairman; W. K. Johnson, Bowling Green, and J. O. Burge, P. O. Nashville, Tenn. Committee on Papers and Queries, C. L. Diehl, Louisville, chairman; Albert Schoettlin, Louisville, Henry Bathiany, Newport. Committee on Legislation, H. W. Evans, Danville, chairman; W. S. Johnson, Henderson, J. W. Gayle, Frankfort. Committee on private formulæ, Edward Goebel, Louisville, chairman; J. T. Higgins, Owensboro, T. B. Woods, Lexington.

On motion, the Association then adjourned, after the usual votes of thanks.

THE WESTERN SAND BLAST CO., Chicago, illustrate on page 8, a few of their beautiful designs of ornamental glass for prescription cases, etc. This company has a world-wide reputation and is one of the conspicuous manufacturing establishments of Chicago. Pattern sheets illustrating a great variety of designs, containing also suggestions for selections and other desired information, will be sent on application. It is suggested that druggists could turn many an honest penny by supplying builders and house owners in their community with these modern requisites of refined ornamentation. Inquirers contemplating such arrangement would doubtless receive prompt attention from the company.

THE NEW IOWA PHARMACY AMENDMENT AND RELATED REGULATIONS.

We are in receipt of the following from the President of the Iowa Commission of Pharmacy:

[Editor of the Western Druggist].

Your proof reader of my short article in your April number makes it to appear that I have been working for a "*license* law of 1878!" Although I wrote the article in a few moments, believing it would be *too late* if delayed beyond that evening's mail, I am sure I wrote PHARMACY law of 1880.

The object of this communication, however, is to give publicity to a few prevailing opinions in relation to the recent amendment to the pharmacy law, and thus reply to numerous inquiries. I must beg all Iowa druggists to bear in mind that these opinions are to be regarded only as any other unofficial opinion, and taken for what they are worth until the courts rule otherwise.

I. I regard the following as a correct abstract of the Pharmacy Law, Chapter 75, Laws of 1880.

AS ORIGINALLY ENACTED.

Sections 1 and 2 are in force.
Section 3 is in force as amended by Sec. 1, Chap. 83, Laws of 1886.
Section 4 is in force as amended by Sec. 1, Chap. 137, Laws of 1882.
Sections 5, 6 and 7 are in force.
Section 8 repealed and substitute enacted by Sec. 2, Chap. 83, Laws of 1886.
Section 9 in force.
Section 10 in force as amended by Sec. 2, Chap. 137, Laws of 1882, and Sec. 3, Chap. 83, Laws of 1886.,
Section 11, in force as amended by Sec. 3, Chap. 137, Laws of 1882.
Section 12, as amended by Sec. 4, Chap. 137, Laws of 1882 is repealed and a substitute enacted by Sec. 4, Chap. 83, Laws of 1886.

There were no amendments by the20th General Assembly, session of 1884—but chapter 143, known as the Prohibitory or Penalty Act, was held by Supreme Court, December, 1885, as having repealed by implication, the provision of section 8 that exempted Registered Pharmacists from the existing prohibition, because it made no provision for the exception under the pharmacy act, and, being the last statute and inconsistent with the one making the exception, it must prevail.

The present attitude in this respect is now reversed, inasmuch as chapter 83, pharmacy law of 1886, is now *the last statute* by intent, and no inconsistency is known either by implication or otherwise. It is now the last expression of the legislative will on this subject and will prevail.

II. The old liquor permit law so far as it relates to selling for *medicinal* purposes is REPEALED, except in wholesaling to a "Registered Pharmacist" who has a (shipping) permit to receive intoxicating liquors within the county in which he does business.

III. The old liquor permit law is unchanged, so far as it relates to selling for *mechanical, culinary and sacramental* purposes, and, in answer to inquiries whether a Registered Pharmacist also had the right to take out such permit, I have replied: "Yes, if he qualifies under the law authorizing the same." i. e. Chapter 6, Title XI. of the Code as amended, but I have no hesitation in reiterating my advice to SHUN THIS PERMIT.

The suits recently commenced by a Le Mars law firm against Northwestern druggists for large penalties (for purely technical violations) one-half of which is to go to the informer, confirms my estimation of *these* "*permits*." The best antidote I have heard to such specious action against *inculpable permit dealers* is for the latter to get their friends to file the informations and then ask the Courts to grant relief, so far as they can, for any purely technical and unavoidable omissions in their reports.

IV. To procure a Pharmacy Permit to keep and sell liquors for medicinal purposes, the party applying must show that he is a Registered Pharmacist, and that he is and has been lawfully conducting a pharmacy *as proprietor* for the six months last preceding in the township, town or ward in which such business is located. Such permit is good so long as the Registered Pharmacists' certificate is in full force and effect, and until he changes his location when he will have to procure *a permit for the new locality*.

V. The monthly reports (official form F.) *do not require* you to report stock on hand, price paid, or at what price sold. THEY DO REQUIRE you to report *all sales* of intoxicating liquors, the amount (*i. e. the quantity*), to whom sold, and the purpose (MEDICINE) for which the same was to be used, as represented by duplicate applications (official form E,) executed by each purchaser.

An un-registered clerk cannot legally sell liquors in the absence or presence of a Registered Pharmacist holding a Pharmacy Permit to sell intoxicating liquors for medicine.

A registered clerk may sell under such permit by countersigning forms E as dispenser.

All printed blanks now in use may be made to conform to amended forms by pen and ink.

In answer to the inquiry whether I consider Hostetter's Bitters, McLain's Cordial, etc., etc. as proprietary medicines "*that can be used as an intoxicant*," and included as coming under Regulation No. 17—

I reply—every Registered Pharmacist must decide this question for himself until the courts determine; it is not likely that our Board will at present undertake to classify or specify the innumerable proprietary preparations "*that can be used as an intoxicant.*"

Is it necessary to have a permit when you do not handle liquors of any kind except just alcohol enough to manufacture our tinctures with? We do not handle spirits of any kind for sale in any way whatever, and do not want to take out permit. The question is, "Can we *use* the alcohol strictly for our manufacturing without the permit?" It does not seem *necessary* to have a Pharmacists' Permit, *unless* you *sell* intoxicating liquors or keep the same in a place of business where it *might be* taken or given away, or sold contrary to law.

If you do not wish to take out permit, I think there is nothing to prevent you from buying alcohol as per form E. "for the actual necessities of medicine" i. e, to make up immediately into *official* tinctures.

Hence the question—"How can liquors be sold to a Physician or Registered Pharmacist who has no permit?" The answer is:

By applying (as per official form E.) to a Registered Pharmacist who holds a permit to sell for medicine as provided by the pharmacy law.

No *intoxicating liquors can be legally sold for medicine* except by form E. or on a pharmacist's shipping permit, official form D.

VI. As Pharmacy Permits like certificates of Registered Pharmacists cannot be issued to *firms*, the firm name can only be used in pormits, form E. applications, etc., as follows:

"John Smith, Reg. Ph. No. — of the firm of John Smith & Co," or, if said Smith has a registered partner whose name is Thos. Jones, and who also has a permit, the application may be, as acting under both permits, as follows:

"John Smith, Reg. Ph. No. —. Thos. Jones, Reg. Ph, No. — of the firm of John Smith & Co."

The above embody the main questions, propounded in various ways, and although it is the particular province of "lawyers" to expound the law, I am at present receiving as many inquiries from them as from Registered Pharmacists, but my sympathies go out to the latter one of whom closes a long letter as follows. * * * "It seems as essential to be a Graduate of Law as a Graduate of Pharmacy."

However our Board will soon publish another official circular dated May 7, with amended forms, etc., which, with the active interest taken will ere long elucidate the requirements of the law.

Fort Madison, Iowa, May 15, 1886. GEO. H. SCHAFER.

Following is "Form E." as referred to in the above, which may be signed by purchasers of liquor each time same is bought:

To.....Reg. Ph., No..... I am not a minor, am not in the habit of becoming intoxicated, and hereby apply for ....(stating amount of liquor)....(kind of liquor) which is to be used "only for the actual necessities of medicine."
For.....
Signed by Purchaser.
Dispensed by.....Reg. Ph., No.....

Any false statement by the purchaser as to the purpose for which liquor is intended, subjects such person to a fine of $10 for the first offense, and $20 for the second with imprisonment not less than ten days.

At the close of each month the pharmacist is required to attach all applications received as above for the month to the following affidavit.

STATE OF IOWA, } ss I, ...Reg. Phar.,
LEE COUNTY. } on oath depose and say that I hereto attach Original Applications showing specifically all sales of Intoxicating Liquors made during the preceding calendar month, the amount, to whom sold, and the purposes for which the same was to be used, as represented by duplicate application executed by each purchaser.

.....

Subscribed aud sworn to before me by.....
this ....day of.....A. D. 188..

The Commission has issued an official notice that all parties who assume to act under a permit fraudulently obtained will be prosecuted for keeping or selling intoxicating liquors contrary to law. Twenty-five per cent. of all fines collected under this act inure to the Commission for defraying the cost of prosecutions.

We quote from the most recent Commission regulations as follows:

REGULATION No. 8.—Examinations will hereafter be conducted at Des Moines, Fort Dodge, Fort Madison and Ames, on the first and third Tuesdays of each month.

Blank applications can be obtained of either Commissioner, or the Secretary at Des Moines, and should be filed with the Commissioner before whom applicant will appear in advance of examination day.

REGULATION No. 17.—All *Bitters, Cordials, Elixirs, Wines, etc.*, put up in the form of proprietary medicines, that can be used as an intoxicant, can only be sold by registered pharmacist having pharmacist's permits, and then, only in the same manner as any other intoxicating liquor, by requiring purchasers to apply as per form "E."

REGULATION No. 18.—The words "*such other domestic remedies*" as referred to in section 4, chapter 83, Laws of 1886, are hereby construed to mean: Un-officinal remedies, or such simples as are kept or non-secret preparations that are made in one's own home. The law itself provides that same "*do not include any intoxicating liquors or poisons.*"

BOARD OPINIONS.

No. 1. A Pharmacist's Permit indicates the authority under which he keeps and sells intoxicating liquors as a medicine to any physician, druggist, or other person, who applies as per form "E," and who is not interdicted from receiving liquors, or the Registered Pharmacist from delivering to such applicant, particular notice being taken to the last three paragraphs of section 2, chapter 88, Laws of 1886.

2. A wholesale dealer who has a general permit may WHOLESALE for medicine to a Registered Pharmacist, who has a pharmacist's permit, on receipt of a pharmacist's shipping permit, but not otherwise. There are now no legal permitted dealers of liquors for the purpose of medicine, except as provided by the Pharmacy Law of 1886, and it does not debar one Registered Pharmacist holding a permit for medicine, to sell to another Pharmacist holding such permit.

3. The recent amendment to the pharmacy Law cures the defects that have heretofore in a measure prevented the enforcement of the law against certain classes of itinerant vendors, including itinerant vendors of *proprietary medicines* or so-called *patent medicines*, and now a large number will be compelled to retire from the business or be required to pay the itinerant license fee of $100.00 per annum as required by section 10, chapter 75, Acts of the Eighteenth General Assembly as now amended.

[Signed], R. W. Crawford, Geo. H. Schafer, John H. Pickett, Commissioners.

ILLINOIS PHARMACEUTICAL ASSOCIATION.

SEVENTH ANNUAL MEETING.

The seventh annual meeting of the Illinois Pharmaceutical Association was held at Rockford, June 8, 9 and 10.

Tuesday Afternoon.—First Session.

The President of the Association, Mr. T. H. Patterson, called the meeting to order at 3:30 P. M., and congratulated the members on their pleasant surroundings, and the prospect of a pleasant and favorable meeting. He then introduced Hon. Mr. Taggart, Mayor of Rockford, who spoke as follows:

MR. PRESIDENT, AND GENTLEMEN OF THE ILLINOIS PHARMACEUTICAL ASSOCIATION: I had some hesitation about appearing here to-day, until I learned that your meeting was not to be held in the Rink, where your goods are exhibited. I was assured by my friends that I should not have to take any of your drugs if I came here, but take them on my own selection. On behalf of the citizens of Rockford, I am glad to meet you here to-day, and glad that you have chosen the city of Rockford to hold your meetings at this time. For the honor that you have done this city, I thank you on behalf of the citizens of Rockford, and on behalf of the Druggists' Association here. I thank them also for the interest they have taken. I understand it is on their account that you have been induced to come here, and therefore I extend thanks to them for the pleasure of meeting you here to-day. On behalf of the citizens of the city of Rockford, and on behalf of the Druggists' Association, I extend to you a welcome, and trust that you will have such a meeting as it will not be long until you meet here again. (Applause.)

President Patterson said: Mr. Mayor, on behalf of this Association I thank you for the kind words you have spoken, and for the cordial welcome your people so abundantly manifested on our arrival here. We accept the kind hospitalities of your people. I assure you we have left all our nauseating drugs at home, and come here laden only with the perfumes of peace and friendship. I trust that this occasion may remain to you and to us all one of pleasant recollections in all the years to come. (Applause.)

On motion of Mr. Day the reading of the minutes was dispensed with.

The Secretary reported sixty-eight applications for membership, which he was unable to present on account of the non-arrival of part of his baggage, and eighteen others, which he had in hand.

On motion of Mr. H. S. Maynard, the applications were referred to the Executive Committee.

The President then introduced a feature not in the official programme.

At our previous meetings, he said, I have observed that your presiding officer has not been provided with a gavel; I have therefore seen fit to have one made which I trust will answer the purpose well, and at the same time be somewhat emblematic of our profession. As we use the Pestle to break down the hard and obdurate particles of drugs, the better to extract their medicinal and healing virtues, so may your presiding officer use this, to so control your deliberations that the greatest good may be extracted for the benefit of all.

If in the discharge of his duties he should wound the feelings of any, let him be ever ready to use this spatula to mix the ointment of peace and spread a plaster of fraternal friendship, which should bind us closely together in all our endeavors to promote the welfare of our profession. Gentlemen, I take pleasure in presenting, this [a gavel of unique design] to the Association.

On motion of the Secretary, all applicants present were allowed the privilege of the floor until their credentials were passed upon.

The Secretary presented the credentials of Messrs. Lyman and Kephart, delegates from the Michigan State Pharmaceutical Association, and introduced those gentlemen, who returned thanks for their reception.

PRESIDENT'S ADDRESS.

President Patterson's annual address to the Association was in a happy vein, and was received with evident good feeling. After the usual greetings and a brief reference to the past work and present prosperity of the Association, the President made various suggestions relative to the leading questions of pharmaceutical interest.

He recommended that the Association appoint a special committee to nominate delegates to the next Pharmacopœial Convention of the United States, to meet in 1890, said committee to report at the next annual meeting. The idleness of the prize fund was next pointed out as needing remedy, the existing rules or want of rules for its application having failed to stimulate any individual professional work for publication, through the medium of the association. The President favored distributing copies of the transactions of the association among members of the legislature as a means of awakening an intelligent interest in the work. It was recommended that the Committee on Legislation be continued in order that the work already accomplished may not have to be done over again. Dr. Patterson took the position that the tax on alcohol is detrimental to the country, rendering many valuable uses of this important solvent prohibitory, and preventing the starting up of many industries which are now unknown in America. The abolition of the liquor dealers' tax upon druggists for the privilege of selling liquor for exclusively medicinal purposes was advocated, not only because of its inherent injustice as a tax, but also to remove from the pharmacists the unmerited odium of being classed as liquor dealers. The pharmacist should in fact be looked upon as a professional man to a greater extent than is the rule, the mercantile part of his business being subordinate, however inseparable it may be, for he is manifestly entitled to fees for his professional knowledge and skill, apart from the moderate profit he may make on purely mercantile transactions. A vigorous compliment was paid by the President, to "patent medicines," which he characterized as the most gigantic fraud, and the worst evil with which scientific pharmacy has to contend. With reference to pharmaceutical education, Dr. Patterson expressed himself as follows:

It is "receiving more and better attention than ever before. A greater demand for knowledge and skill, and a demand for a higher grade of both, have awakened an ambition to improve upon the methods in use, and to widen the scope of instruction. Several new colleges of pharmacy have been established within a comparatively short time; but no college of pharmacy has any rightful claim to support unless it is fully prepared to give the most efficient instruction, is honest and conscientious in all its work, faithful to its pledges, and sound to the core. In so far as new colleges of pharmacy are strong, sound, and worthy, the profession is to be congratulated upon these increased facilities for education." In conclusion he complimented the Secretary and other officers, and committees for their zeal and good work, paid a glowing poetical tribute to the great State of Illinois, and made his best bow, amid the cheers of the brethren.

On motion of Mr. H. C. Robbins, of Creston, the address was referred to a committee of three, to be appointed by the Secretary.

The roll of the Committee on Counties was then called, and a number of applications for membership reported from several counties as the call proceeded.

When Cook county was reached on the call, Mr. Hallberg, of Chicago, said he thought the meeting ought to hear from Cook county with its nineteen different associations. [Applause.]

Mr. Jamieson said the associations in Cook county numbered something like 400 members. [Applause.] They were pretty thoroughly organized and wide awake, and had sent in to the Secretary about forty applications for membership this year. They also expected to send one or two representatives to the next legislature in behalf of a pharmacy bill which they were trying to put through, and which he believed could be passed with the aid of other counties.

Mr. Day said that his district would send two votes to the legislature in support of the pharmacy bill.

A communication was read from Mr. J. S. Frantz, of Vermillion county, embodying some suggestions for amendments to the existing pharmacy law.

The Secretary reported that complaints had come from Woodford county that the committeeman there was one of the worst cutters in the State, and Mr. Chamberlain had been notified in consequence that his services would no longer be required on the committee.

On motion of Mr. Day, Mr. C. A. Strathman, of El Paso, was appointed for Woodford county.

On motion of the Secretary, seconded by Mr. Day, the Treasurer was authorized to pay such bills for expenses in connection with the work of the Committee on Counties as were approved by the President and Secretary.

Mr. Day, from the State Board of Pharmacy, presented his report, which was referred to a committee of five, consisting of Messrs. F. A. Druehl, J. G. Schaar, Bodo Uhlendorf, H. C. Robbins and A. Shumway.

The following is a summary of the report:

The fifth annual report of the State Board of Pharmacy was read by Secretary Day. There have been 250 men examined during the year, and 86 have passed. There are 3,114 registered pharmacists in the State and 619 assistants. Of these Chicago has 745 registered pharmacists and 130 assistants. The board has estimated the increase in population for the year at 2½ per cent, and the increase in druggists and drug clerks the same. During the year 349 pharmacists have been registered without examination. Of these, 86 licentiates in pharmacy, 94 graduates in pharmacy, and 196 graduates in medicine. During the year 36 druggists have been prosecuted for violating the law, and each paid $50. The cash balance in the treasury at last year's close was $2,496.53. Receipts this year, $7,515.40. Total cash, $9,981.93. Expenses, $6,024.08. Balance cash on hand, $3,957.85.

The Secretary appointed Messrs. C. H. Grube, of Robinson; C. W. Day, of Springfield; and Max Behrens, of Chicago, as a Committee on the President's Address.

On motion of the Secretary, the association adjourned till nine o'clock Wednesday morning.

Wednesday—Morning Session.

The association met at nine o'clock, the President in the chair.

The Secretary presented sixty-eight applications for membership in addition to those received the previous day which were referred to the Executive Committee.

Communications were read from the Massachusetts State

Pharmaceutical Association in session in Boston, and from the New York State Pharmaceutical Association in session in Rochester, which were received and placed on file.

THE REPORT OF THE SECRETARY.

He reported that the receipts had been during the year $725.79, the disbursements $668.45, leaving a balance of $57.32. This did not include the "Chicago Prize Fund," which now amounted to $419.79, not including interest to date. The expense account had been large during the year, but the immediate returns, as shown in the increase of applications for membership, would fully justify the extra expenditure. The president had written upward of four hundred letters of three pages, made necessary by the duty of selecting county committees. Too many members seemed to consider their responsibilities ended when the officers were elected and as the association depended on the support of each member he would urge each to consider himself a committee of one to carry out the aims of the association. He would recommend that the county committees be continued and strengthened both for the sake of local influence they exert and as nuclei of county organizations. In his opinion the present legislative committee should be preserved intact since the work begun by them could be completed by them. The annual transactions had been an expense which seemed likely to progressive y increase and should be provided for either by raising the dues or soliciting revenue from other sources; 1,000 copies had been printed. Several members had omitted to notify the Secretary of a change of address, thereby entailing considerable expense for postage of transactions. Exchange copies had been sent to the different pharmaceutical journals and the sister associations. He would recommend that the secretary be authorized to issue a certificate of less expensive character than the present one. He then thanked the Association for their kindness and congratulated the members on the high position it held among pharmaceutical organizations. The Board of Pharmacy was peerlessly performing yoeman service in the cause of pharmacy.

The report was referred to the Executive Committee.

On motion of Mr. Day, the privileges of the floor were extended to Mr. H. M. Whelpley, of St. Louis, and on Mr. Ebert's motion Mr. Whelpley was made an associate member, with the privilege of the floor.

Mr. Whelpley said he had had the pleasure during the year of attending quite a number of associations, but none that he enjoyed more than this. He thanked the association for the reception accorded him.

Mr. Hallberg introduced the Secretary of the Iowa State Association, Dr. Rosa Upson, who briefly thanked the meeting for the welcome extended to her.

Mr. Jamieson read the Treasurer's report, which exhibited substantially the same figures as that of the Secretary.

Mr. Maynard, of Chicago, moved that the report be referred to the Executive Committee.

Mr. Ebert moved as an amendment that the report be referred to a committee of three, together with the report of the Secretary.

The amendment was agreed to, and the chair appointed as such committee Messrs. Ebert, Uhlendorf and Stone.

Mr. Ebert asked to be excused on account of other duties, and Mr. Prickett was substituted in his place.

Mr. W. Bodeman, of Chicago, chairman of the Executive Committee, read the report of that committee, which recommended that hereafter the editorial work on the proceedings be done exclusively by the chairman of the Executive Committee, and that the Secretary's duty in relation to them consist only of their distribution; the chairman should be paid $50 for this work, to be deducted from the Secretary's salary. To diminish the cost of the proceedings, a limited number of advertisements should be inserted on the cover. To stimulate the interest in the work, the Secretary should be required to mail to every druggist in the State a copy, which would do missionary work for the association. If this were to be done, 5,000 copies would be needed. A duplicate list of members should be prepared for the use of the Executive Committee. The Secretary should be required to report payments of dues tri-monthly to the Executive Committee. The chairman of the Executive Committee should be required to notify all members three years in arrears for dues that if the same be not paid in three months they would be dropped from the roll. The committee also recommended that nominations should be made in open session, as being freest from possible clique influence. The selection of time and place for the annual meetings should be left to the Executive Committee.

Mr. Ebert moved that the report be received, and that instead of being referred to a committee, its recommendations be considered seriatim.

Mr. Uhlendorf, of Chicago, seconded the motion, which was agreed to.

Mr. Bodeman read the recommendation of the committee as to editing the proceedings.

Mr. Ebert moved to strike out the word "exclusively," so as to give the chairman of the Executive Committee the privilege of calling upon any other officer to aid him, and that the salary be made $25 instead of $50 as recommended in the report.

Mr. Uhlendorf seconded the motion.

On motion of Mr. Schaar, the motion to take up the report seriatim was reconsidered.

Mr. Schaar moved that the report be referred to the same committee as the reports of the Secretary and Treasurer, so that if any changes were to be made in the consttiution or by-laws, the committee might formulate the necessary changes. The motion was agreed to.

Mr. Ebert, from the Committee on Papers and Queries, reported that the committee had during the last year and during the last interval of this meeting issued a number of notices to the members generally, for the purpose of obtaining answers to the queries on the published list, and had also done a large amount of correspondence and work for the purpose of getting papers. They had so far received ten answers to query No. 1, covering the tabulated prescription query. They had also received eleven answers to queries suggested by the committee, and one volunteer paper, making altogether twenty-two contributions, which would be read from time to time at the pleasure of the association.

The President: My own idea is that it will be more pleasant to the members to take up these papers after the business is attended to. Unless there is a motion to the contrary, we will call up other business, and then take up these papers.

Mr. Bodeman read the report of the Committee on the President's Address. The committee reported that the associatibn was greatly indebted to the President, whose arduous labors in organizing the county committees had produced so great an effect. The committees should be continued. The President's censure on the Prize Essay Committee was fully met by the fact that the committee was now ready to report. A Pharmacopœial Revision Committee had been appointed, and were at work, and therefore no special action was needed in this particular. The committee were of opinion that, as had been suggested by the President, a copy of the proceedings should be sent to every druggist in the State, provided the means of the association permitted. A committee should be appointed on the patent-medicine question, as recommended by the President. The Legislative Committee should not be changed. The association should take no action on the alcohol-tax question, but should co-operate with other associations in securing the abolition of the liquor license as now imposed on retail druggists. The committee were of opinion that since professional skill entered into the labors of the pharmacists, a professional fee should be charged. The eulogy of the Secretary by the President was well deserved. The committee felt unable to do full justice to the poetic flights of the President. (Signed) C. H. Grube, Chas. W. Day, W. Bodeman, G. H. Sohrbeck, M. Behrens, Committee.

On motion of Mr. Schaar, the report was adopted.

The Secretary read letters from Mr. R. H. Cowdrey and Mr. Nelson Weed, resigning active membership, and from Mr. A. P. Cunningham, stating that he would be unable to be present at Rockford.

On motion of Mr. Hallberg, the resignations of Messrs. Cowdrey and Read were accepted.

Mr. Schaar read the report of the Committee on the Report of the State Board of Pharmacy. The committee recommended that the report be accepted, and the action of the Board of Pharmacy in requiring a greater knowledge of pharmaceutical science from applicants for registration be approved. It was also recommended that the association request the legislature to amend in such a way that neither medical nor pharmaceutical diplomas be qualifications for practicing pharmacy, but that the question of registration be determined entirely by the results of registration, and that the association pledge itself as a body and its members as individuals to support such candidates for the legislature as would support the required amendments to the pharmacy law. The law should also be so amended that the expense of the pharmacy would be borne by the State. The association should express itself in the highest terms as to the efficiency of the Board of Pharmacy (Signed) F. A. Druehl, Bodo Uhlendorf, H. C. Robbins and J. G. Schaar, Committee.

On motion of Mr. Grube, the report was received and the committee discharged.

Mr. Day: There are recommendations in that report that interest me. The Illinois Board of Pharmacy has taken an advanced position. If we are indorsed by this association we want to know it; and if we are wrong in the opinion of this association we want to know it, because this association shall always guide our efforts. The mere matter of receiving this report does not carry with it any indorsement of the action of the committee.

Mr. Jamieson moved that the recommendations contained in the report have the hearty indorsement of this association.

Mr. Hallberg seconded the motion, which was agreed to.

On motion of Mr. Ebert, further time was granted to the Committee on Prize Essays to report.

Mr. Hallberg presented the the report of the committee Unofficinal Formulæ, (which we will present in our regular issue.)

The report of Committee on Unofficinal Formulary, was signed by A. Scherer, R. E. Rhode, John Conrad, H. W. C. Martin, A. E. Ebert and C. S. Hallberg, Chairman.

On motion of Mr. Schaar, the report was adopted, except so far as it related to Simple Elixir.

Mr. Day introduced the delegates from the Wisconsin State Association,—Professor Power, Mr. Avery, Mr. Bernhardt and Mr. Heimstreet.

Mr. Peter Van Schaack was introduced as representing the National Wholesale Drug Association, and addressed the meeting as follows:

He could report progress in the efforts the Association was making to secure the repeal of the tax on spirits used in pharmacy and the arts. He then read a letter addressed to the Hon. Mr. Breckridge by the N. W. D. A., who hailed from a State which produced more of a superior quality of a peculiar kind of liquid medicine than any other State in the Union. Mr. Hewitt's reply to this was then read. From these documents there seemed to be a reasonable hope of carrying the measure at this session of Congress; but large bodies moved slowly, and the Association intended to get their "rights if it took all summer." In behalf of his associates of the committee, Messrs. Singer of Peoria and Lynds of Quincy, he could assure them that the N. W. D. A. was ready at all times to aid in the elevation of American pharmacy. He wished them a pleasant, successful meeting, and a safe return to the bosom of their families—if they had such an institution; if not, his advice as an old married man was that they should hurry home and get one; it was better than any drugs they had to offer the public. When he received the invitation from the efficient local secretary—he was bound to speak well of Mr. Porter since he gave him as reference to the landlord—the invitation was for something to exhibit. His partners, reflecting how uncomfortable their competitors would feel if they made a large display of their superior drugs, coolly notified him that they had concluded to send their "old governor," and his partners were his sons as well, he had to come, for which he had heartily thanked them in his mind. Mr. Jamieson, the genial secretary, had sent a kind letter in which he said, "The old Salamander would be a good thing to send;" and Mr. Van Schaack had brought him along, and was speaking for him when he said he also was glad he came. The Association had made him an honorary member, and since then had increased in numbers, wisdom, and, he thought, beauty. His modesty should be excused, for if he did not speak for himself no one else would, always excepting Mr. Ebert, who knew when he saw a good thing. He was there, therefore, both as an exhibit and chairman of the Committee on Fraternal Relations of the N. W. D. A., to extend to the Illinois Pharmaceutical Association most fraternal greetings.

On motion of Mr. Schaar, the Association adjourned till two o'clock.

Wednesday Afternoon--Third Session.

The convention was called to order at 2 o'clock by the President.

On motion of Mr. Maynard, the Secretary was instructed to cast a ballot for the election of the applicants for membership in the association.

The Secretary read applications for membership from Byron S. Turner, Chicago; L. C. Lewis, Belvidere; F. G. Sommers, Chicago and M. H. Morris, Champaign county, which were referred to the Executive Committee.

The President announced the receipt of a telegram from the Indiana Pharmaceutical Association, sending fraternal greetings and best wishes for a successful meeting in Rockford.

Mr. Le Caron presented the Report of the Committee on Trade Interests, which was referred to a special committee of five.

The condition of the drug trade at present was far from satisfactory General business depression, excessive competition and continued encroachments of scalpers on the province of druggists had all contributed to bring about this undesirable state of things. Rent, taxes, insurance, clerk hire and general expenses could not be reduced, hence profits had diminished. There was nothing calling for special comment in the drug market. There seemed to be a general desire to secure the abolition of the tax on spirits and the repeal of the law imposing a special liquor dealers' license on pharmacists. While the quality of the drugs on the market had appreciated, still all drugs should be inspected at the cost of the State. Illegibility of physician's prescriptions was a cause of bickering between the two professions, and means should be taken to bring about a reform. The requests of the drug clerks for decreased hours should receive earnest attention, since drugstore hours could be materially reduced without loss of trade or resulting in public inconvenience. The detrimental effects of long hours needed no demonstration, and in this connection the feasibility of keeping closed during certain hours of Sabbath day should be considered.

A growing tendency existed in all lines of trade to attract public attention by offering some article of known value at or below cost, in the hope of selling other lines of goods. This evil existed in all large and many small cities; patent and proprietary medicines were chosen as leaders by such dealers and this demoralized the patent medicine trade. An attempt to check this practice was made by incorporating the Chicago Retail Drug Association, whose aims were to contract with manufacturers for supplies of druggists' sundries subject to cut prices, to own and copyright, trade-marks and other rights in labels; all such goods to be sold to Chicago retail druggists only. This plan was recommended to the Association for consideration. The N. W. D. A. had taken action to aid the retail druggists in this particular, but a reform could only be effected by concerted action of retail druggists alone. Retailing at wholesale prices by jobbers was another evil which required attention; large consumers often bought goods of jobbers at a less price than retail druggists, because, as was alleged, they bought larger quantities, which might be true of one article. The practice of allowing the relatives of employes goods at cost price had extremely bad results, both directly and because of the bad effect resulting from popular impressions of enormous profits thereby obtained.

The question whether proprietary medicines as such were to remain as part of the pharmacist's stock in trade or were to be thrown out deserved earnest attention. The tendency of the trade was rather in the direction of handling manufactured and semi-proprietary articles than the raw material. Individualism was being crushed out by corporations, and the effect on pharmacy was not at all desirable. Large wholesale dealing in simple elixirs was not a favorable indication as to intellectual growth among pharmacists.

The pharmacy law was doing its work well. The once varied drug trade, however, through the encroachments already mentioned, was being narrowed down to the compounding of prescriptions, which left but a narrow profit.

The President: The hour for adjournment this noon seemed to come upon us before having a good opportunity to introduce some of our friends from another State. I am sure I reflect the sentiments of all the association in saying that we very much desire to hear a few words as to how pharmacy is progressing in Wisconsin. I call upon Professor Power.

Professor Power: Mr. President, and Gentlemen of the Illinois State Association: I thank you very much for the courtesy extended to us as visitors from the State of Wisconsin; and I ssure you that it affords us very much pleasure to spend a few hours at this meeting. I will not occupy much of your time, for I realize that there are important subjects which you have for consideration this afternoon, and there are also gentlemen here who, as delegates accredited from the State of Wisconsin, will present the official greetings of our State Association. I would like, however, personally to express my own most earnest wishes for the substantial success of your deliberations, and that the highest ideals which you may set before you for the furtherance of pharmacy in this State may be fully realized. I fully share with you in all the hopes and aspirations that you may entertain. I congratulate you most heartily upon all that has been achieved in the past, and wish you the best and most enduring prosperity for the future. (Applause)

Mr. Heimstreet, Secretary of the Wisconsin State Board of Pharmacy, being next called upon, said: I can but express my pleasure in meeting you here to-day. I came here more to hear than to be heard. As to pharmacy in Wisconsin, we are doing all we can. We have always looked up to Illinois as to an elder sister in that regard, both associations being formed, as I understand, in 1880. We have 320 members; we started with 78. We have at present about 1,250 registered pharmacists in the State, about 25 per cent. of whom are members of our State Association.

Mr. Bernhardt, of Madison, also briefly addressed the association.

The President appointed as the committee on the report of the Committee on Trade Interests, Messrs. J. S. Green, of Morrison; F. M. Smith, R. Frerkson, of Chicago; W. M. Benton, of Peoria, and J. J. Shugart, of Chicago.

On motion of Mr. Le Caron the thanks of the association were tendered to the Wisconsin delegation, and they were accorded the privileges of the floor.

The secretary announced that he had received an invitation for the members to visit the Rockford Female Seminary, which was accepted.

Mr. Le Caron, in presenting the REPORT OF THE COMMITTEE ON FIRE INSURANCE, said that at the last annual meeting there was a special committee appointed on fire insurance. It had one meeting, and instructed him to examine into the question's legal aspect, and to interview an insurance expert. It was discouraging to say that it was almost impossible to do anything, and the committee had concluded to defer the whole matter until this convention, and simply report the situation. Their report was, in substance, as follows:

Fire insurance rates on drugstores were higher than the conflagration statistics seemed to require, and a protest against unjust and statistically unfounded discrimination seemed to be required. Mutual companies had been successfully established and carried out. The various means of securing mutual insurance were first by joint stock companies, which could not be conducted in Illinois without a paid

up capital of $150,000. The committee then reviewed the various statutory requirements, and were of the opinion that the only plan at all feasable was one permitting not less than thirteen persons to form a corporation, who would be entitled to receive not less than four hundred stockholders, whose premiums would amount to $400,000; but it would be unwise for the Association to engage in a commercial enterprise. Only men experienced in insurance business and having the confidence of the druggists of the State could successfully conduct an enterprise of this kind.

The President called Vice-President Travis, of Assumption, to the chair.

Mr. Day presented the REPORT OF THE COMMITTEE ON LEGISLATION, which was substantially as follows:

The legislature had not been in session, the committee had therefore devoted its attention to enlightening the people on the subject of pharmaceutical legislation; 500 circulars and 300 letters had been sent out, and the replies received had been most encouraging. The committee urged the members to actively solicit additional members. They recommended the appropriation of $1,000 for legislative requirements of the coming year. Every county in the State not organized should be visited. There was a prejudice against pharmacy legislation arising from the belief in its ex post facto character. Personal interviews with those thus prejudiced had always had beneficial results. Twenty-two Boards of Pharmacy now existed in the Union, and every State would soon regulate the practice of pharmacy. Illinois should lead in this work. (Signed), C. W. Day and C. H. Plantz for the Committee.

Mr. Schaar moved that the report be referred back to the committee, the committee continued for another year, and that a per capita tax of $2 be levied to defray the expenses.

After some discussion Mr. Schaar withdrew his motion and moved to consider the committee's recommendations seriatim, which was adopted.

On motion of Mr. Jamieson, the first recommendation of the report was referred to the Counties' Committee.

The second recommendation, for an appropriation of $1,000, gave rise to an extended discussion.

Mr. Schaar renewed his motion that a per capita assessment of $2 be levied.

Mr. Hallberg seconded the motion, which was agreed to.

On motion of Mr. Shumway, seconded by Mr. Uhlendorf, the motion was reconsidered.

Mr. Uhlendorf moved that each member contribute fifty cents in addition to his regular dues, for legislative purposes.

Mr. Starr seconded the motion, which was agreed to.

The secretary announced that the Rockford Druggists' Association invited the members of this association to a reception at Armory Hall in the evening.

The secretary also announced the receipt of a congratulatory telegram from the Kansas State Pharmaceutical Association. He was authorized to send reciprocal greetings.

The secretary read a communication from Mr. N. G. Bartlett, chairman of the Committee on Drug Adulterations, expressing his regret at being unable to present a report, owing to the change in association's time of meeting.

Mr. Schaar moved that the report of the Committee on Legislation be adopted, which was agreed to.

Mr. Uhlendorf read the report of the Committee on the Secretary and Treasurer's Reports. The committee had examined and found correct the secretary's and treasurer's account. They recommended that the issuing and editing of the proceedings be placed in the hands of the Executive Committee's chairman; also that $25 be appropriated for the compensation of the editor; that the secretary's salary be reduced to $100; that $25 each be appropriated for the use of the Committees on Queries, on Drug Adulteration, on Unofficinal Formulæ, on Organization. They also recommended the creation of the office of corresponding secretary. They did not approve of inserting advertisements in the proceedings, nor of issuing a larger edition thereof. The extra list, if deemed advisable, might be made at little cost, and should be made, if deemed necessary, for record purposes. They did not believe the Nominating Committee should be abolished, as it saved time; nor did they believe that the Executive Committee should be given power to name time and place for annual meeting. (Signed) F. A. Prickett, Bodo Uhlendorf and John H. Stone.

On motion of Mr. Travis, the report was received and placed on file.

On motion of Mr. Hallberg, the association adjourned until 9 o'clock Thursday morning.

Thursday Morning—Fourth Session.

The convention was called to order by the president at 9 o'clock.

On motion of Mr. Hogan the chair appointed Messrs. Theodore Behrens, M. B. Travis and Joseph Schofield a committee on exhibits.

On motion of Mr. Day the secretary was instructed to issue a certificate to members, the cost not to exceed the postage.

Mr. Behrens presented the REPORT OF THE COMMITTEE ON PRIZE FUND AND PRIZE ESSAYS. The report stated that the committee had carefully examined, as required by the by-laws, all papers published in the proceedings. The paper in answer to query one: "A report on the drug and medicines prescribed by physicians in Illinois," embracing eighteen printed pages, compiled and tabulated from over 15,000 prescriptions, displaying a great amount of painstaking, patient, careful work, was regarded as most elaborate and complete. It had attracted the notice of the European and American pharmaceutical journals and transactions, and led to similar investigations. For this reason the paper was considered worthy of reward. (Signed H. Biroth, Chairman.)

The secretary read a communication of greeting from the Winnebago County Medical Society, which was received and placed on file.

Mr. W. K. Forsyth, from the Committee on Deceased Members, stated that no case of death had been reported to the committee during the year.

Mr. Wilson moved that the secretary and the Executive Committee be directed to procure such advertisements as would be unobjectionable, and print them with the proceedings. Carried.

On motion of Mr. Day, the recommendation of the committee as to editing the proceedings was agreed to.

The secretary moved the adoption of the recommendation to reduce the salary of the secretary to $100. Carried.

On motion of Mr. Robbins, the recommendation of the committee to place $25 to the credit of the Committee on Papers and Queries was agreed to.

It was also decided to leave a similar sum to the credit of the Committees on Drug Adulterations, Unofficinal Formulas and the Counties' Committees.

The recommendation to create the office of assistant secretary was not concurred in, though that referring to furnishing an extra roll of members to the Executive Committee was concurred in.

On motion of Mr. Ebert, a committee was authorized to revise the constitution and by-laws, and to give notice of changes to be proposed at the next meeting.

The secretary presented the application for membership of Samuel Orton, of Rockford, which was referred to the Executive Committee.

A communication was read from the Hospital Stewards' Association of the United States Army, asking the association to petition for an increase of the salaries of the army hospital stewards to $50 a month.

Mr. Schaar moved that a committee of three be appointed to draw up a petition to Congress on the subject. Adopted.

The chairman appointed as such committee, Messrs. Schaar, Borcherdt and Brown.

Messrs. Gruba, Prickett, Biroth, Schreiber and Jacobson were appointed a committee to nominate officers.

The secretary then read the Report of the Committee on Trade Interests. The committee indorsed the statements in the report as correct and recommended the suggestions to the consideration of the Association. The diminution of the profits of retail druggists was regarded as due to defects in the pharmacy law, which had increased the cost of conducting the business without sufficient compensatory advantages. The law has not decreased the number of stores, while there has been an increasing sale of drugs and medicines by physicians. Every effort should therefore be made to bring the advantages of the pharmacy law amendments before the druggists. (Signed) John S. Green, R. C. Frerksen, Wm. Benton, F. M. Schmidt.

The report gave rise to an animated debate. Mr. Wilson moved it be laid on the table. Mr. Ebert objected to this, when Mr. Day strongly defended the commercial advantages accruing from pharmacy laws, declaring that the committee's report charging diminished profits on its account, was in error. He instanced the experience of a Dixon druggist, who at one time was extremely skeptical as to the business advantages of the act, but subsequently he had wholly changed his mind in view of a reduced number of druggists in his town, arising from the effects of the law.

The Secretary—I rise to a point of order. Mr. Day was not paying

attention to the report. It does not state that there has been no increase, but that there has been no decrease. There has been an increase of physicians who supply their own customers with goods.

Mr. Day—I ask the President to rule the point of order not well taken, because I was talking of the proposition that there have been no benefits from the pharmacy law.

Mr. Green—There is no disposition on the part of your committee to "pitch into" the pharmacy law. We want one, but we want one different from the present one. I think the statement is correct that there has been no decrease in the number of drugstores since the passage of the law, owing to the fact that any person can run a drugstore by simply having a registered pharmacist, or under cover of a physician. The statement that the physicians in the country are generally dispensing their own medicines, and furnishing articles that properly belong to a drugstore, to their customers, is strictly true. I think that statement can be substantiated by a good many country members of the Association. In the city, of course, it is different, but there are no statements made in that report that cannot be substantiated.

Mr. Dumbeck—I did not know that the pharmacy act had any tendency to decrease the number of drugstores or to deprive any one of a livelihood. I thought the object was to raise the standard, and I think our law is doing that. I do not think it is necessary to show that the number of drugstores has been decreased in order to show that the law is good.

Dr. Rosa Upson—We have just had this same experience in Iowa. Our old pharmacy law, in a great many ways, was very much like your present pharmacy law. My idea is, that a physician capable of prescribing medicines for his patients should know how to fill prescriptions. Every druggist in the United States has filled prescriptions which made him stare. I venture to say that more than one-half the physicians who write prescriptions do not know the incompatibilities they put into them. One thing in regard to this pharmacy law, that we have to contend with now, and have had all the time, is the filling of prescriptions by physicians themselves. When I first went to Iowa, very few of them filled prescriptions; now, the majority of them do. They buy their drugs of the retail druggist, and they expect you to give them to them for just about cost. Another thing we have felt in our State, is the practice of druggists prescribing over the counter. In February the law passed, that all persons must stand the same examination, those who have graduated as well as those who have not. That is a good law. If a man is capable of filling a prescription and standing behind a drug counter, he ought to be capable of passing an examination, and ought not to be afraid to pass that examination. In our State we have not had to contend with physicians running drugstores to any great extent. There are a great many men who hire a registered clerk, but at the present time a man cannot do that, on account, I suppose, of this last liquor law. The clause we have in regard to sales of liquors by druggists, is, that no man is allowed to sell liquors unless he be a registered pharmacist. He may have as many clerks as he pleases, but only those who are registered can dispense liquors. An unregistered clerk cannot dispense liquor in Iowa.

Mr. Day said he would support the recommendation if, in the clause "it [the law] has increased the cost of running drugstores without any corresponding or compensating advantage to the proprietors," the word "proper" were substituted for "any."

Mr. Hallberg thought the committee's report fairly represented the sentiment of the Association—that is to say, that the pharmacy law has not yielded any immediate results.

Mr. Day—It has.

Mr. Hallberg—Any good it has done in the way of decreasing competition, it has on the other hand added to the cost of running the business. Nothing has been gained by the law from an economical standpoint. There is a standard by which we must measure the law, and that standard certainly cannot be a question of dollars and cents. It is a far greater question—whether it will elevate pharmacy to a profession, whether it will raise the standard, whether it will be a stimulus for young men to properly educate themselves. Henceforth we will have a better class of competent pharmacists in the State. In that direction, of course, the pharmacy law is working continually and steadily, and each year with ever increasing steadfastness; but as regards immediate results from an economic standpoint, they are not clearly apparent.

The committee accepted the substitute of Mr. Day, and the report was adopted.

Mr. Schaar presented the report of the special committee on the petition of Hospital Stewards of the Army, and reported for adoption the following resolution:

Whereas, The members of the Illinois Pharmaceutical Association, assembled in annual session, believe that the Hospital Stewards U. S. A., are not paid sufficiently for services required from and rendered by them: Be it resolved, that the Illinois Pharmaceutical Association hereby indorses the petition of the Hospital Stewards for an increase of salary to $50 per month as most reasonable and appropriate, and respectfully petition the U. S. Congress now assembled to grant the increase in the salary of the Hospital Stewards. (Signed, J. G. Schaar, J. C. Borcherdt and A. A. Brown.

Mr. Schaar added that the committee thought best not to recommend a change of name to "apothecary," as the duties of Hospital Stewards are not merely those of an Apothecary alone, but included the duties of Superintendents of Hospitals and Hospital Supplies.

The report was adopted as read.

The report of the Committee on Exhibits was read and ordered published.

Mr. Galloway read a paper by Prof. Bastin, giving a succinct detailed account of the uses of botany to the pharmacist, calling attention not only to its direct value, but also to its uses in pharmaceutico-legal matters in the detection of adulterations.

Mr. Ebert said that in connection with Prof. Bastin's paper, it was of interest to note that the residue from glucose manufactories, consisting of corn hulls, was often sold to brokers who very probably re-sold it to adulterate spices.

The Committee on Papers and Queries, Mr. L. C. Hogan, chairman, reported a number of papers as having been received in answer to Query No. 1: "What drugs and preparations are prescribed in Illinois?" Eleven papers have been received representing over 15,000 prescriptions. The contributors were the following:

B. M. Bland (2,000) Maquon, Knox county; J. F. Cover (1,398), Knoxville, Knox county; A. Zimmerman (3,183), Peoria; C. Beukma (1,100), Livingston county; Richards & Hoberdeck, Moline (1,500), Rock Island county; M. B. Travis (1,000), Saybrook, McLean county; F. L. Shenkle (1,000), Martinsville, Clark county; A. A. Culver (1,000), Momence, Kankakee county; Wm. Jungkunz (1,000), Freeport; Chas. A. Nichols (1,000), Elgin; A. Jacobson (1,000), Chicago.

Mr. M. B. Travis, of Assumption, also contributed the following papers: Officinal flora of Assumption Township and vicinity, and of Cheney Grove Township, McLean county, and vicinity.

Mr. Jamieson here called attention to the desirability of knowing who were prepared to act as delegates to the Michigan, Wisconsin and Iowa Associations.

President Patterson said that it was desirable for the Association to know whom to appoint as delegates.

On motion of Mr. Hallberg, this question was referred to the secretary, with power to act.

Mr. Hogan read an answer to Query 7: "Medicated Waters of the Pharmacopœia," favoring the hot water process. On motion of Mr. Forsyth, the paper was received and referred.

Mr. Hallberg said that the experiments of Mr. Hogan coincided with the results obtained by others engaged in making medicated waters by the two processes. How the pharmacopœial process came to be adopted was a puzzle. It had not been discussed in the journals before its adoption by the committee, and hence there had been no expression of public opinion on the subject. The hot water process had been the subject of discussion for at least ten years by himself and others. It had hitherto been found to be the most practical and satisfactory process; more practical for small quantities than distillation, which of course gave the best product. In his opinion, the hot water process should be made officinal in the next Pharmacopœia, in lieu of what might be termed the absorbent process, because the cotton absorbed more oil than was afterward extracted from it.

Mr. Ebert said that the cotton process had been discussed in a pharmaceutical journal, and before the A. P. A., by W. S. Thomson, of Washington, just before its insertion in the Pharmacopœia. The committee were after pharmaceutical novelties. and cotton-picking was a novelty to the pharmacist.

Mr. Hallberg asked Mr. Hogan if he desired to be understood as saying that he poured boiling water into bottles placed on a wet towel?

Mr. Hogan replied in the affirmative.

Mr. Hallberg asked if the bottles had never broken?

Mr. Hogan had not had that experience. He had kept the towel thoroughly saturated with water.

Mr. Hallberg had generally wetted the bottles inside thoroughly with cold water before pouring in the boiling water, and, as a rule, without bad results.

Mr. Ebert suggested that to save time, the Association choose which papers be read.

On motion, the answer to Query 19, by Prof. E. B. Stuart, on the preservatien of hypodermic solutions was read and referred. He recommended a solution of equal parts of camphor water (made of distilled water) and distilled water.

Mr. Hallberg was inclined to the opinion that he had noticed fungi in camphor water (which might have been made with impure water). Camphor water was not a good solvent.

Mr. Ebert said that what seemed to be fungi was the organic matter which separated from the water in which the camphor had been dissolved. Organic matter held in water usually separated on the addition of camphor. He was positive fungoid growths did not occur in camphor water.

Mr. Hallberg was not positive about the element of error alluded to having been eliminated, from his observations which were made in a general way, many years ago. If camphor water answered the purpose it would be a good thing.

Mr. Ebert could not say that it did.

Mr. Hallberg said camphor water would be comparatively harmless from a therapeutic standpoint. Many things, like salicylic and boric acid, and even mercuric chloride had been recommended, but the last was obviously objectionable since it tended to deprive alkaloidal solutions of their medicinal value.

Mr. Ebert said the subject of hypodermic solutions was of the first importance. He was not certain that camphor water was destitute of therapeutic properties or incompatible with the solution, since certain eminent physicians had been quite decided in their opinions as to the value of hypodermic injections of camphor. The indiscriminate use of camphor water in hypodermic solutions was not to be recommended without further investigation.

Mr. Hogan said Prof. Stuart had recommended the use of what was practically a homœopathic quantity of camphor.

Mr. Ebert read a paper by Otto Dreyer, in answer to Query 19, advocating the use of the oils of galtheria, sassafras and melissa, to mask the odor of iodoform, when used in the proportion one drop to the drachm.

Mr. Forsyth had had good results from the use of the Tonka bean.

Mr. Ebert found that oil of sassafras masked the odor of iodoform under peculiarly disadvantageous circumstances.

Mr. Schaar advocated the use of melissa oil.

President Patterson had had prescriptions with melissa oil evidently intended to mask the odor.

Mr. Hallberg advised the use of dry zinc oleate.

Mr. Biroth had had good results from cumarin.

Mr. Hallberg said that Mr. Braun simply shakes in Tonka bean dust as a substitute for cumarin.

The report of the nominating committee was then read. Mr. Porter, of Rockport (nominated and elected in his absence), resigned the presidency, after which the following officers were unanimously elected: President, B. F. Gardner, Atlanta.

First Vice-President—F. A. Druehl, Chicago; second, A. Shumway, Lanark; third, J. S. Green, Morrison.

Secretary—L. C. Hogan, Englewood.

Treasurer—G. H Sohrbeck, Moline.

Executive Committee—H. C. Robbins, Creston; M. B. Travis, Assumption; J. G. Schaar, Chicago

Editor of Proceedings—A. E. Ebert, Chicago.

For Vacancy in State Board of Pharmacy—Geo. Buck, Chicago; F. A. Prickett, Carbondale; C. H. Grube, Robinson.

The following resolution, offered by Mr. W. K. Forsyth, Chicago, was then adopted:

Resolved, That manufacturing chemists and wholesale dealers in drugs be requested to label their products in conformity with the standards of the United States Pharmacopœia, expressing the strength of liquid preparations by the specific gravity or percentage strength, and discard such arbitrary signs as F. marks, Beaume, etc.

After an animated discussion, Decatur was selected as the next place of meeting, and the time was left to the decision of the Executive Committee.

A volunteer paper on "Quinine Hydrochlorate," by Henry Fuller, was then read and referred. The paper called attention to its greater solubility than the other salts, and hence its greater pharmaceutical value.

A paper on "Pressed Herbs," by Mr. Allaire, was read and referred. It discussed the recommendation that herbs should be labeled with date of pressure, but concluded that the disadvantages of such a procedure would be greater than its advantages.

The newly elected officers were then installed with appropriate ceremonies.

The question whether Mr. Bourscheidt had, by becoming a physician, abandoned pharmacy, and had not, therefore, become ineligible as a member of the Pharmacopœia Committee, was brought up for discussion, but was laid over for future consideration.

The Association then passed a vote of thanks to the Rockford pharmacists, and the retiring officers, after which the Association adjourned to meet in Decatur next year.

The Commercial Exhibit.

The exhibits, though not so large or as numerous as last year, were quite creditable, taking into consideration the many meetings held upon the same days throughout the country. Ample space was provided in the "rink" adjoining the Congregational Hall, and the exposition was fairly well patronized.

The most conspicuous exhibit was that of the CHICAGO DRUG AND CHEMICAL COMPANY. It comprised everything in the line of drugs and chemicals, glassware, shelf furniture, fancy goods, etc. Fine specimens of rare drugs in crude form, such as tubers of salep and jalap; roots of polypodi, ononis and sumbul were displayed in section jars. Fine flowers, such as Rhœdas papaver, Malova vulgarus, arbora, etc., Rose, Pæony, Calendula, Herb Cardui. Benedicti and a magnificent specimen of stigma Maidis (corn silk) attracted considerable attention. Many of these, usually imported from Germany, are grown for the firm in the State of Illinois. A full line of Merck's rare chemicals, embracing all the latest remedies, cocaine, eserine, chinolin, cannabin, iodol, pyridin and more in endless variety. As an exceedingly interesting feature was noted the different products obtained in the manufacture of the refined chemical compounds of boric and tartaric acids and iodine. Thus from the crude kelp from which iodine is made, the various iodine compounds, from crude argolspotassium tartrate, crystallized bitartrate and powdered or cream tartar. The successive steps showing the production of borax from the crude boric acid obtained from Italy by combining with an alkali (soda ash); characteristic forms of crystallization of boric, citric and tartaric acids and their salts: all arranged in groups by the president of the company, Mr. Henes, made an elaborate, instructive and exceedingly creditable exhibit.

MORRISSON, PLUMMER & Co. Chicago, with a full line of drugs, crude, powdered and manufactured, extracts, elixirs, fancy goods and specialties.

PARKE, DAVIS & Co., Detroit, Mich., Pharmaceutical preparations, extracts, fluid, solid and powdered; elixirs, pills, gelatin capsules, soft capsules, etc.

JOHN WYETH & BRO., Philadelphia, Pharmaceuticals, elixirs, fluid extracts, compressed tablets, powders and lozenges, etc.

HANCE BROS. & WHITE, Philadelphia, represented by J. H. Walker, Chicago, Pharmaceuticals, fruit juices, etc.

MCKESSON & ROBBINS, New York, Pharmaceuticals, fruit juices, gelatin-coated pills, etc.

SEABURY & JOHNSON, New York, Pharmacopœial and India-rubber plasters, absorbent cotton, surgical merchandise, etc.

FREDERICK STEARNS & Co., Detroit, Mich., Elegant pharmaceutical preparations, crude rare drugs, non-secret preparations, etc.

RŒSSLER & HASSLACHER, New York, Manufacturing Chemists, specialty, new-process chloroform, which attracted considerable attention.

BITTNER & PETERSEN, Chicago, Pharmaceutical Specialties, druggists' sundries, fancy goods, toilet articles, etc.

EASTMAN BROS., Philadelphia, Perfumes, fancy goods, toilet requisites.

GRAHAM BROS. & Co., Chicago, Soaps, perfumes, etc.

ROCKFORD CHEMICAL COMPANY, Specialties, butter coloring, etc.

IRONDEQUOIT WINE Co., Irondequoit Bay, N. Y., Pure grape wines.

THE UNITED STATES ELECTRICAL COMPANY, New York, Poison Cabinet, furnished with electric alarm, attracted considerable attention from the visitors.

NATIONAL CASH REGISTER COMPANY, Dayton, O.

MENTHOL INHALER, an article of exceptional merit, by H. D. Cushman, Three Rivers, Mich.

NATIONAL PLASTER COMPANY, Lowell, Mass. A full line of plasters, India-rubber, etc., surgical merchandise.

N. Y. PAPER BOX Co., Druggists' boxes, lithographed labels, etc.

ROPER & BAXTER CIGAR COMPANY, Chicago, A full line of cigars, including their well-known "Lucky Star" and the "Famous Ten," for which the several members of the Association stand as sponsors.

A NEW FOOD FOR INVALIDS.—I desire to call the attention of readers to the advertisement of "Albuminoid Food." Considering the vast number of patent medicine advertisements which we are obliged every year to reject, it is a pleasure to find one article, not in any sense a medicine, which we can not only advertise, but heartily recommend. From personal trial of their preparation, I am quite satisfied with every claim made for it, and take pleasure in suggesting it to invalids needing this form of alimentation.—*A. L.*

KANSAS PHARMACEUTICAL ASSOCIATION.

Emporia, the city where the meeting convened, is an enterprising town of 10,000 inhabitants, situated about 100 miles west of Kansas City. Built upon the level plain between the Cottonwood and Neosho Rivers, and upon alluvial soil, trees grow luxuriantly and impart a natural beauty to the city. Its houses and residences are somewhat scattered, but evince much taste and suggest an easy condition of things with the owners. The business portion of the city is not confined to one street, as is frequently the case in Western towns, but is distributed. The drugstores are decidedly brilliant, tasteful, and, above all, unusually clean and inviting. There are perhaps a dozen of them, and all are doing a good business. Emporia, situated as it is from thirty-five to fifty miles in every direction from towns of any magnitude, enjoys a very large country trade. It is blessed with two daily papers that are helpers of the community—not barnacles—and also with three successful weeklies. The State Normal School is situated here, and is architecturally a fine building.

THE MEETING.

Druggists commenced to arrive early on Tuesday afternoon, the day preceding the meeting, and by the next morning the Coolidge House—headquarters—was lively with the *genus* pharmacist, some bearing the subdued look that betokens a night of travel in an uncomfortable car.

First Day—Morning Session.

President Spangler called the meeting to order shortly after ten o'clock. The roll call, on motion of Mr. F. E. Holliday, was postponed until the afternoon session, when a full complement of delegates was expected.

F. E. Holliday, of Topeka, was appointed treasurer pro tempore.

The President then delivered his annual address, from which we quote its main points:

PRESIDENT'S ADDRESS.

Well do I remember the status of our profession six years ago when we first met to organize. At that time we had no legal recognition on our statute books. In the criminal code of the State there was a poison law, to which no attention was paid, serving only for some enemy to pick us up unawares.

The liquor law (the old dram shop act) failed to recognize us in any shape; under it if we even filled a physician's prescription for intoxicating liquors, without first taking out a dram-shop license (minimum tax one hundred dollars a year) we were liable for the penalties of that law, if some enemy chose to prosecute us for the same. [Section 16, Kansas S. C. Reports, page 146, Salina vs. Seitz.] It was a frequent occurrence then, if a community prosecuted a saloon-keeper for violation of law, that the saloon interests would in turn commence prosecutions against the druggists, for the purpose of securing a compromise of the saloon cases.

As much as many druggists complain of the present liquor law, it is far better for us than the old law; the present law protects us if we are reasonably careful, while the old law gave us no protection whatever. Whatever may be the odium brought on the profession by the liquor traffic of to-day, it was equally as bad or more so six years ago.

Then anybody could compound medicines and fill prescriptions even if he didn't know the difference between calomel and table salt. Now we have the pharmacy law limiting such work to qualified persons only. Then there was no school in the State where the student could specially prepare himself for the business of a pharmacist, now we have a chair of pharmacy as one of the departments of our great State University, where the student of to-day can take a thorough course in pharmacy.

Then a committee of the legislature would condescend to permit us to make explanations of a proposed pharmacy law before them, but they would not consider the law and take any action thereon in our presence, but requested us to retire from the committee room before they considered the law in committee; but now such committees will listen to us attentively and take action in our presence and be glad to consult with us. Then we could not drive a word in edgewise with a sledge-hammer, when the committee was considering the liquor laws, but last winter the senate and house committees, together with the State Temperance Union Committees, met with and consulted our legislative committees, and all three worked together for the common good of all.

Thus our influence and power in the State, as a profession, has greatly increased in the last six years. In my opinion, this is almost wholly due to the work of this association. And now when I look back over this work, I freely admit that I feel proud of what we have accomplished.

At the time of our last meeting, we had not yet had time to well judge of the workings of either the pharmacy law or the prohibition law. During this meeting I hope both may be fully discussed, that we may in this way learn what is the proper course to pursue in the future. I would urge certain changes in the pharmacy law, which observation and experience have suggested to me. I believe that the appointment of the State Board of Pharmacy should be partly controlled by the pharmacists of the State. Under the wording of the law no one can become a registered assistant pharmacist unless he was engaged in a pharmacy at the time of the passage of the act; no one entering the business of pharmacist since the passage of the law can become a registered assistant pharmacist; this should be remedied.

The address then recounted minutely the metho's employed in endeavoring to secure satisfactory legislation last winter, and the failures and successes met with by the committee.

The following gentlemen were appointed a committee on the President's address: A. Totten, Osage City; Chas. Lawrence, Wichita; J. Kuster, Williamsburg.

The Secretary, John T. Moore, of Lawrence, read his report for the year, which consisted of the usual statistics, of interest to members only. The roll embraced 258 names in good standing. One death had been reported. It was moved that the report be accepted, and a vote of thanks tendered to the Secretary for work accomplished.

The Committee on Membership reported a number of names as eligible to membership. All applicants whose names were submitted, at this point, and during the day, were duly elected.

The report of the Committee on Trade Interests made their report: "'Trade' means to buy and sell—buy well, select carefully, be content with a fair profit, and turn your capital over often. Nothing attracts trade to a drugstore more than neatness in appearance of both store and employes, politeness and promptness in attending to the customers' wants, and dealing only in goods of the first quality. The man who has to dust his shelf before he can find a box of pills is seldom over run with custom. The prescriptionist who has to wash his bottle before filling a prescription, does not have many to fill, and the man who is always 'out' of what you want, but who has 'something just as good' is the man who complains of dull trade. Look to your store, look to your clerks, look to your bills payable, keep down your bills receivable, and above all, keep up your insurance. Don't believe all the hard things you hear of your competitor, but cultivate his acquaintance; you will generally find him an honorable man and worthy of your confidence. Take an inventory every year, and leave the petty jealousies to other trades" (Signed) H. S. Lynn, Galena, F. E. Holliday, Topeka, and George Glosson, Coffeyville.

Mr. R. J. Brown reported as a delegate to the Missouri pharmaceutical meeting, 1885, and in closing said that he had been so well treated that he "wanted to go again."

Congratulatory telegrams were received and exchanged from the New York State Pharmaceutical Association and the Missouri State Pharmaceutical Association.

The courtesies of the meeting were extended to local physicians and druggists—non-members. Prof. O. A. Wall, of St. Louis, was asked to contribute a paper during the meeting, and invited to take part in discussions.

Prof. L. E. Sayre, of the Kansas State University, was elected an honorary member.

The chairman of the Legislative Committee, Mr. F. E. Holliday, moved that the President's address be accepted as a report of the action of his committee, as it reported minutely all their proceedings, which was carried.

The resignation of Theodore Egersdorff, of Leavenworth, on account of his removal to Missouri, was accepted, and he was made a corresponding member.

The Secretary moved the adoption of the New York and Brooklyn Formulary as authority for certain unofficinal formulæ. Considerable discussion took place, many claiming the formulas were not perfect. Inasmuch as a revised and improved edition was about to be issued, it was finally agreed to adopt the Formulary, as a basis for a better work of the kind.

The meeting then adjourned till 2 P. M.

Afternoon Session—First Day.

President Spangler called the meeting to order at 2 P. M. Dr. J. J. Wright made the welcoming address. He drew attention to the fact that the six years of the existence of the Association had been full of good results to the profession and public, all of which could be traced to the influence of the organization. He was always impressed with the carefulness of a conscientious pharmacist, and had a keen appreciation of their responsibilities. He reviewed the work they had accomplished, and urged them to labor for the good of their profession continuously. He welcomed the pharmacists to Emporia, and said that the citizens and pharmacists would do their best to entertain them. He thanked the association for the honor conferred upon him, and wished them a highly successful meeting.

Mr. B. W. Woodward, of Lawrence, in reply to Dr. Wright's welcome, said it was the rule of his life never to make an impromptu speech without carefully writing it all out beforehand. This time, however, he was caught

without notes, and he feared what he said would be brief and inadequate. Dr. Wright's was a most interesting and instructive address, appreciative as well as cordial. It was without doubt the best that the association had ever listened to. If there were an orator or essayist in the Association, he, not the speaker, ought to make the response. The Kansas Pharmaceutical Association had come to stay. Revolutions never go backward. He was glad that the Association was on wheels, so to speak, and that they met in the various towns of the State. It gave the members a chance of getting thoroughly acquainted, not only with each other, but also with the various beautiful towns of the State. He was glad that they had met at Emporia this year. It was a most beautiful city. Twenty-nine years ago a band of young men (which included U. S. Senator Plumb) came to the illimitable prairie and founded Emporia. They builded better than they knew. Emporia, commercially, was a success, as well as being an educational center. Before the war Emporia had no railroads, and he himself had "drummed" the town commercially, traveling by team. It took him days to reach it, when, now, hours suffice. One single drugstore existed, now they had increased tenfold, and keep pace with the progress of the town and the progress of the wonderful State of Kansas. Everything was auspicious for this meeting; the day, the place, and smiling nature. In view of the time and trouble evinced, as expended in behalf of the druggists, they would go home rejoicing that they had been to Emporia.

The Committee on Nomination of Officers, Messrs. B. W. Woodward, Lawrence; W. C Johnston, Manhattan; R. B. Kelly, Emporia, and U. S. Griffin, Nortonville, made the following report:

For President—W. C. Sears, Burlington. First Vice-President—R. S. Drake, Beloit. Second Vice-President—U. S. Griffin, Nortonville. Secretary—John T. Moore, Lawrence. Assistant Secretary—Derastus Holmes, Topeka. Treasurer—Chas. D. Barnes, Abilene. Executive Committee—A. E. Barnes, Topeka; R. J. Brown, Leavenworth; H. W. Spangler, Perry; W. W. Morris, Eureka.

On motion the report was adopted.

Mr. Spangler introduced President Sears, who said that although flattered by the honor thrust upon him, yet he was sure that the association had not chosen their best man. He would have done the best he could for the interests of the association.

The remaining officers were then installed, each making a short address.

B. W. Aldrich requested the association to make Wichita the place of meeting for 1887. C. D. Barnes proposed Abilene. J. B. Dickey suggested Newton. It was finally agreed that Wichita should entertain the association. J. P. Allen was elected local Secretary.

Mr. Albert Totten, of Osage City, gave notice that he would offer the following resolution to be considered at the morning session:

WHEREAS, The present Kansas statute regulating the sale of spirituous, vinous, fermented and malt liquors, by placing the same in the hands of druggists only, has reduced the once honorable calling of the druggist, to the level of the saloon-keeper,

Therefore, be it resolved by the Kansas Pharmaceutical Association at its Seventh Annual Meeting at Emporia, June 9, 1886.

That our State Legislature be requested by our Legislative Committee, to take the sale of intoxicating liquors entirely out of the hands of the druggists.

Mr. Faxon was introduced as a delegate from the National Wholesale Drug Association, and made the following address:

GENTLEMEN,—I have the honor to be one of the delegation appointed by the President of the National Wholesale Drug Association to tender to you the fraternal greetings of that organization—to congratulate you on the growing vigor of your Association, and to bid you God-speed in your endeavors to elevate the character of pharmacy in this State. Our Associations are kindred in spirit and purpose, our interests are mutual. Your success is our prosperity. Without you we should have no reasonable excuse for being, and without us, and our ubiquitous agents, you would be lonely, to say the least. We are both parts of a whole. It must be clear to the mind of every thoughtful observer that the retail druggists of the United States are becoming each year more proficient. The standard of excellence is being elevated, and the reason is obvious. To the labors of the American Pharmaceutical Association, and the effective efforts of the several State Associations is the improvement due. There are special and cogent reasons why the cause of true honest pharmacy in this State should be carried forward. There are elements in the drug trade in Kansas, that make the subject a complex one. You have a grave responsibility upon you. Great work is given you to do. I trust you will be equal to the occasion, and that your best hopes may be justified. The profession of pharmacy has long been an honored one, and I trust it will ever remain so.

A wholesale drug firm had occasion recently to write to a country banker, inquiring of the character and responsibility of a party who had ordered a bill of drugs. The banker replied that the individual in question had made a success of farming and that he thought he was capable of running a grocery store, but did not have sufficient intelligence to run a drug store. Here, gentlemen, you have an unbiased and confidential opinion regarding the dignity of your high calling. Through the influence of your growing State Association, may the men capable of running drugstores multiply to the displacement of such as those mentioned by your President in his excellent address this morning, who carry their drug stocks in their show windows, and measure fluids in glasses that are not graduated.

The State of Kansas—always in the front—has shown wisdom in the endowment of a Chair of Pharmacy in its great University, and happy, I believe, in its choice of a Professor, you will now be able to procure your pharmacists without going East, and have them of "home production," and familiar with the complex character of your profession in this State. The time will come and the day will not be a distant one when the Ph. G. diplomas of this Western college will be as sure an open *sesame* as those which emanate from that time honored institution in Philadelphia. Be up and doing, for all things come to those who work and wait.

There is a little matter of business that I am instructed by the President of the N. W. D. A. to bring to your notice. He writes, "It is particularly desired that the action taken by the Association in favor of the abolition or reduction of the Internal Revenue tax on spirits be brought to the notice of the Association, and co-operation with our body be secured." This refers to the heavy burden that druggists now have to bear in the payment of the enormous tax on spirits. The Wholesale Drug Association think that one of three things should be done, either

(1). Abolish the tax entirely.
(2). Materially reduce the tax, or,
(3). Enact special regulations for alcohol used in medicine and the arts, and for manufacturing purposes. Without tax, a barrel of alcohol costs, say, $20. With the tax it costs, say, $100. This is onerous and without reason. Again it is proposed that the Internal Revenue License tax on druggists be abolished. It is a stigma on an honored profession to class a pharmacy with a dram shop.

The President of the Wisconsin Pharmaceutical Association said at their 1885 annual meeting:

"As a general rule, the alcohol, wines and liquors sold by druggists (*a d*, when I speak of druggists, I don't mean saloon-druggists who make a regular drinking shop of their stores under cover of a drug sign, of which kind Wisconsin has very few) are not used as a general thing, for any other than medicinal uses, and this being the case, there is neither reason, sense or justice why our profession should be classed as rum-sellers, and taxed as such." Gentlemen, I trust you will give some expression on these matters. There may be little hope of anything being done at an early day, but the sooner agitation of the question is begun, the sooner will our aims be accomplished. In conclusion, I congratulate you on your labors. I trust these deliberations will prove as pleasant as they promise, and fruitful in results; I thank you for your kind attention.

Mr. Woodward of Lawrence, introduced the following resolutions, which were adopted:

Resolved, That we receive with pleasure the expression of kindly interest just tendered us by the N. W. D. A. through its representative, Mr. Faxon; that we cordially reciprocate the feeling of professional fellowship, and that we will gladly co-operate with said Association in any measures that will tend to promote the best interests of the drug trade, and the upbuilding of the profession of pharmacy.

Resolved, That we see no necessity for the further continuance by the National Government of the special license taxation of druggists as dealers in liquors, solely for medical and scientific purposes, and therefore we favor co-operative efforts to secure the repeal of the same.

Resolved, That as American pharmacists we take pride in promoting the sale of chemicals and pharmaceuticals of American manufacture, whenever their quality equals that of those produced elsewhere; that we believe our Government should foster the manufacture of such to the extent of relieving them as fully as possible from burdens of taxation. We therefore favor the exemption from Government tax or impost, alcohol and all crude materials employed in such manufacture, and we will heartily co-operate with the N. W. D. A. toward securing such relief by congressional legislation.

R. B. Kelly, of Emporia, drew attention to the entertainment for the evening, when the "Owl Club" would amuse them at the Opera House. He stated that tickets could be obtained at the secretary's desk at the close of the session. The meeting then adjourned until 9 A. M.

Morning Session—Second Day.

President Sears called the meeting to order.

The Committee on the Treasurer's Report (showing balance in treasury of $419.32) had audited the same and found it correct. The report was adopted.

The following committees were appointed by the chair:

Queries and Pharmacy: D. W. Morris, Emporia; A. Totten, Osage City; E. E. Lewis, Solomon City.

Trade Interests: M. L. Stone, Wamego; D. B. Rowe, Leroy: Geo. T. Brown, Ottawa.

Examination (of applications for membership): R J Brown, Leavenworth; Oscar Seitz, Salina; Chas Lawrence, Wichita.

Delegates to the American Pharmaceutical Association: W. C. Sears, M. L Stone, R. J. Brown, Geo. Leis, R. S. Drake.

To the Missouri Pharmaceutical Association: R. J. Brown, Geo. Leis, Prof. L. E. Sayre.

M. L. Stone drew attention to the July re-registration required by the pharmacy law, and moved that the Secretary be instructed to prepare a blank to facilitate registering, to be mailed to members.

By vote, all work usually done by the Legislative Committee devolves upon the Executive Committee. An hour was devoted to instructing the committee as to legislation desired.

The matter of using scarlet labels for poisons was discussed, and the association decided them useless and un-

necessary, since the accidental loss of one of them from a bottle or package might prove dangerous by leading to the inference that the contents of the bottle were safe and could be administered.

Albert Totten then read his paper, dealing with the pharmacy and liquor laws, in which he showed the change for the worse which the latter, aided by the former, had worked.

Charles Lawrence, of Wichita, read a paper with the following title:

"DRUGGISTS OR SALOON KEEPERS."

Probably no subject was agitating the minds of the druggists throughout the State of Kansas at the present time like this question of the sale of intoxicating liquors, and what they as druggists should do about it. It is THE question, not only on account of its present aspects, but much more in regard to its future results. Wishing to satisfy his own mind on the subject, and to obtain as reliable information as possible from the druggists themselves in all parts of the State, together with their personal opinions in this matter, the writer asked a number of druggists for statistics, and their personal judgment as to what should be done. A good proportion responded, and their replies and suggestions seem to cover all the points in the case. Answers were received from twenty-three towns and cities, aggregating a population of over 200,000, and including their country trade of probably at least 300,000 more; representing about one-fourth the population of the entire State. In their replies we have all phases of the subject, and a fair statement of the entire question as it relates to the druggists themselves; the standpoint alone from which this paper was written.

In the first place, is the present law satisfactory? While there are many opinions as to the proper course to pursue, not one has said that he was satisfied with the present law. This is significant. Although many have no decided opinion as to what is best to do, they all want something different tried. Doubtless we all know of persons who formerly ran saloons, pure and simple, and whose signs and general appearance were in harmony with their business, now keeping about the same kind of custom, but their sign reads, "Pharmacist" or "Deutsche Apotheke." They also have another sign with the Probate Judge's name on it, which states that they can sell intoxicating liquors for medicinal, mechanical and scientific purposes. (What a comprehensive scope these three words have!); and safely put away in the Probate Judge's office may be found a paper, signed by twelve responsible property holders stating that this former saloon keeper himself, or some person associated with him is possessed of a good moral character—is in good faith engaged in the drug business, and is a proper person to sell liquors for the purposes that the three big words cover: he probably is, if experience is worth anything, for although they include about everything, in his varied career he has already sold it for all the ills and accidents that flesh is either heir to or can acquire. There should be another sign, setting forth his pharmaceutical ability, but this may not be in sight, as his reputation is usually sufficiently established without a diploma, and it may have been taken down in order to make room for his certificate of membership in the State Pharmaceutical Association. Kansas has either originated or developed another variety of druggists. We have now some prohibition saloon-druggists. You can tell them by the way that they howl about the "Joints." They say that druggists are the only competent persons to sell liquors; that they should sell at a good price, and that the county attorney should do his duty without reference to re-election.

2. Can, or will, the burdens of the present law be removed? It would seem that the druggists had given pretty fair samples of "how not to do it." First it was thrown upon the physicians; then the medical army was recruited from all ranks, from veterinary surgeons to coroners, and in some cases, competition became so strong that a prescription for liquor could be had for a quarter, and not always cash at that. But this was too oppressive, and an outrage upon the poor man who could not afford the necessary liquor for his suffering family, so the last legislature cut the extra expense down to five cents, giving it to the Probate Judge, and placing the responsibility upon the sick man and the druggist, jointly; while the *joint* part flourished the evil remained. "But," some one says, "in communities where the temperance sentiment is strong, these abuses would not be tolerated." Such a statement is good in theory, but this fact remains, that in places where temperance sentiment has been strong enough to keep the sale of liquors confined to the drugstores, there you will find the greatest abuses, and the better class of druggists the most clamorous for relief. How it can be remedied, and still remain in the druggists' hands, no one has yet thought out.

3. Shall we, as individual druggists, quit handling liquors? This is one way out of the difficulty, and quite a number of conscientious druggists seeing the tendencies of the present system, and realizing the impossibility of selling any liquors at all without breaking the letter if not the spirit of the law, have discontinued its sale, and will not furnish liquor for any purpose. But not many see their way to do this. In these live Western towns, where competition is sharp and active, and the druggist usually without friends able and willing to support him while he is trying a new experiment, we do not feel like giving up anything to our competitors by which they may gain our customers, for undoubtedly they will try and often would succeed in doing this if we gave them the opportunity. Many of our best customers use liquors for legitimate, or what they consider legitimate uses, under the prohibitory law, and, if under no circumstances would we furnish it to them while our neighbor is only too ready to do so, how quick they would feel insulted, and would transfer their patronage to the other store, where all their wants could be supplied. How many, even among the theoretical prohibitionists, would appreciate or care for conscientious feelings in this matter? My experience with them has been that they always think that the prohibitory law is to look after some one else, and that there is no need for them to follow out any technicalities like signing a statement, or telling for what the liquor is to be used; you must certainly know that *they* want it for *legitimate* purposes. No, the evil is too great to battle with single-handed, and in justice to all concerned, let every one have a fair chance on an equal footing.

4. Shall we as druggists, advocate and work for the repeal of the present law, so far as it is necessary, in order to take the sale of intoxicants out of the hands of druggists entirely? There are some objections to this course. For instance, it has been a legitimate part of our business from time immemorial, and would at first be hard to get along without. There is without doubt a legitimate and proper demand for liquors for medicial and scientific uses which must be supplied in some way, and as we are looked upon to furnish other remedies so will we be expected to find these. Physicians also, whose profession is so closely linked with ours, whenever they prescribe or recommend liquors to their patients, prefer that they procure the same from some reliable druggist. Others say that the present law is good enough if enforced, or if not strictly carried out, that the whisky stores relieve the others from the trade that they do not want, and save them much trouble and annoyance. Others again, say that we cannot afford to lose the profit made from its sale, or if those now in business were not allowed to sell liquors, they would either, from spite, or as a last resort, to build up a drug trade, cut prices and so ruin the profits of the other stores. No other objections have been made, and the writer has never heard any others advanced as coming from the druggists themselves.

Now let us examine the weight of these objections. First, although physicians and customers now naturally look to us to supply their legitimate demands in this direction, would they still insist that we should furnish their liquors if they knew the hardship the present system places upon us, our anxiety as a class to get rid of it, and further, that another way would be provided by which they could obtain it at as little trouble and expense. In regard to the enforcement of the present law, should it be faithfully carried out as we find it upon the statute book, especially that part of it which makes the seller the judge as to whether the customer is buying for legitimate use or not, and punishes him for deciding wrongly, how long would we clamor for its rigid enforcement? Wouldn't we have plenty of time to read up the journals, and study up generally, while waiting for our thirty days in jail to expire? You think this is an overdrawn picture, but the reason you think so is because the law has been so loosely carried out that you don't realize what it does contain or what hardships its strict enforcement would place upon even the most careful and conscientious.

Speaking of profits they are not all on the side of selling liquors, although at first sight it might seem so. On comparing the statistics of the different towns over the State, in regard to population, and the number of drugstores, you would be surprised to see how closely they are in the proportion of one store to one thousand population, and except in very rare or abnormal cases, in all towns over 4,000 population, it will not vary ten per cent. from this rule. There are a few exceptions to this, and they are so striking as to be worthy of special notice. In one city whose population is not far from 3,500, they have at present nine drugstores, but a great number of them have been started quite recently, and why? Because the pressure was so great as to force the sale of liquor into the drugstores, which result has been so demoralizing to the trade, and worked such hardship upon the legitimate druggists that they are loudly crying for relief. But it may be said stores of this kind do not interfere with the proper trade of the other drugstores, they only remove from them a source of annoyance, and no one would patronize them for medicines, much less have their prescriptions filled there. Now, gentlemen, I leave it to you, did you ever know of a store of this kind run by a man ever so contemptible or incompetent, that he did not have some drug trade? Every dollar of the trade he gets is taken directly from the store of some man who is competent, and to whom it properly belongs.

On the other hand, two cities have had the sale of liquor practically removed from the drugstores on account of the saloons remaining open. What is the result? Instead of a drugstore to every thousand inhabitants, as in all other parts of the State, there are just one-half as many. By removing this disturbing element it has not only elevated the profession, but also kept down, or rather cut out that class of stores, so that those cities have, in proportion to population, just 50 per cent. of the number contained in like towns in all other parts of the State. These figures certainly mean something, and there is a plain object lesson right here for us; just apply this to your own towns all over the State, and figure it out for yourselves. By taking out those stores whose liquor sales constitute their main support, and which would not be in existence at all, but for liquor, and you would each of you reduce your competition 50 per cent. Ought we not to work for this for the sake of our profession and reputation? "A Kansas Druggist!" Just think of the impression that sentence conveys, and yet we have some as honored and talented men as the profession claims. Now they must bear this odium and disgrace for which they are not responsible. We must do this in order to secure such amendments to, and such an enforcement of our Pharmacy Law as to make it a success, and cause it to work that elevation to ourselves and safety to the public for which it was intended. Only a few days ago, a man went into one of these so-called drugstores and calling for a drink of whisky, was given an ounce of Tincture of Aconite root. It had the color of the genuine "red liquor," it had a spirituous smell, and the druggist had a certificate from the State Board, but for all that the medicine was not satisfactory.

In conclusion, whether prohibition in principle, is right or wrong, whether or not we can ever look for the enforcement of the present law, the relative merits of high license, low license, or *no* license at all, or how to regulate the sale of liquors through State agencies, we as druggists are not here to-day to discuss, but, taking all things into account, weighing carefully the arguments for and against, can we either financially, morally or professionally longer afford or permit this damaging and degrading element to remain a part of our otherwise honorable calling?

Mr. Totten's resolution, offered at the previous afternoon's session, was called up for consideration.

Mr. Lawrence moved its adoption.

Mr. Spangler seconded the motion.

Mr. Drake thought the present law could be carried out.

Mr. C D. Barnes thought the liquor traffic was a detriment to the druggists of the State, but didn't see how it could be taken out of their hands.

One member said he could not vote for the resolution, as the preamble was too vicious and implied guilt on the part of the druggists.

Another would never admit that druggists were incompetent to sell whisky legitimately.

Mr. Johnston said that the time coming would prove the

honesty and integrity of druggists, and he could not vote for a resolution implying guilt as a liquor-seller.

Some effort was made to change the preamble, and, after a very lengthy discussion, Mr. Holliday moved that the resolution be laid on the table, which was seconded and carried by a rising vote.

The meeting adjourned to 2 P. M.

Afternoon Session—Second Day.

Vice-President R. S Drake called the meeting to order.

The secretary read a communication from Mrs. M. H. Buck, State Superintendent of Conference with other Associations for the Woman's Christian Temperance Union, asking for some expression from the druggists assembled showing that they were casting their influence in support of the liquor law as an association. The following resolution was then submitted:

Resolved, That we deprecate the sale of spirituous liquors as a beverage, and promise to aid in enforcing to the letter our prohibitory law, calling upon all druggists to aid in preserving th's avocation within the strictest bounds of its original design, viz.: Selling for medicinal, mechanical and scientific purposes *only*, thus divesting our profession from any and every unjust suspicion.

Several members spoke highly of the Woman's Association, and said that they were heartily in favor of the resolution:

The resolution was adopted almost unanimously, and the secretary was ordered to thank the ladies for their communication.

A communication from Prof. P. W. Bedford, asking for delegates to the National Formulary Committee, was read, and the following were appointed by the president: Messrs. W. C. Schott, Leavenworth; R. H. T. Nesbitt, Leavenworth; Frank Frisby, Atchison.

A resolution was adopted requesting the State Board of Pharmacy to make the examinations of candidates for registration more strict, and the dean of the Department of Pharmacy, University of Kansas, was requested to make a yearly report of the workings of his department, and inform the association of its requirements.

Prof. L. E. Sayre then gave an outline of the workings of the School of Pharmacy.

Prof. Otto A. Wall, of St. Louis, read a paper upon "The requisites for an apprentice to the drug business." Summed up, these were: Health, Mathematics and Latin. Given these to start with, an excellent pharmacist could be made.

A resolution was adopted to the effect that pharmacy was a profession fit for women to enter, and the association recommended the prosecution of the study of pharmacy and its branches by women.

It was moved that members having copies of old but valuable transactions and books should send them to the Department of Pharmacy at Lawrence for the Pharmaceutical library.

A vote of thanks was offered to the citizens and druggists of Emporia, to the "Owl Club," and to the local newspapers for their kindness and favors extended.

The meeting then adjourned *sine die*.

NEW MEMBERS ELECTED.

W. R. Irwin, Emporia.	W. R. Griffin, Ellis.
I. D. Lewis, Emporia.	James M. Smith, Eureka.
Chas. E. Hall, Russell.	D. B. Rowe, Le Roy.
Chas. H. Baskin, Solomon City.	H. E. Steinhliber, Winfield.
H. L. Raymond, Lawrence.	B. W. Aldrich, Wichita.
Geo. J. Gray, Wichita.	G. Clifford Shew, Newton.
R. B. Wallace, Wichita.	A. F. Rowe, Wichita.
O. R. Symmes, Oswego.	H. C. Kendrick, Eureka.
Clarence E. Frantz, Galena.	J. A. Wood, Walnut.
J. C. Simmons, Emporia.	W. Sullivan, Parsons.
Robt. S. Drake, Beloit.	J. C. Fox, Emporia.
L. H. Howard, Oswego.	Ezra Crosby, Emporia.
Samuel Gardom, Council Grove.	H. E. Cowgill, Burlington.
A. W. Hart, Eureka.	Charles Ryder, Emporia.
Isaac Rider, Fulton.	B. Whelden, Emporia.

Over 100 members were in attendance.

NOTES.

The exhibitors were W. S. Merrell Chemical Co., Parke, Davis & Co., Seabury & Johnson, Oldberg-Wall Laboratory, Philadelphia Truss Co., J. S. Kirk & Co., Sherwin-Williams Co., Graham Bros. & Co., and Carter White Lead Co. The displays were well arranged and received much attention.

The "Owl Club" burlesque on "Romeo and Juliet" was a surprise. It was well rendered in every way, and the surprise was the handling of the time-honored apothecary, who insisted on talking drug-business in every scene. His use of the stomach pump in resuscitating Romeo was masterly, but rendered unnecessary by the adulteration of the arsenic bought by Romeo to shuffle off the mortal coil. Juliet was a blonde and failed to shave off her moustache before appearing. The "Owl Club" are to be congratulated upon their talented members and fine singers.

The following is a partial list of members who were present:

R. J. Adams, Republic.	R. J. Brown, Leavenworth.
D. M. Bates, Winchester.	W. D. Banner, Vining.
J. W. Allen, Atchison.	F. T. Browne, Circleville.
A. Beland, Valley Falls.	W. Brons, Armstrong.
J. P. Allen, Wichita.	A. E. Barnes, Topeka.
T. C. Benson, Oskaloosa.	C. Bruengger, Clifton.
B. Anderson, Galesburg.	C. D. Barnes, Abilene.
J. R. Best, Valley Falls.	A. J. Buck, Oskaloosa.
T. W. Atkins, Girard.	J. Barber, Lawrence.
C. B. Beckford, Caldwell.	C. J. Butin, Fredonia.
E. D. Atwell, Lyndon.	E. W. Bartleson, Mound City.
G. L. Bowers, Junction City.	I. A. Campbell, Severance.
J. F. Byars, Junction.	T. L. Bassett, Anthony.
J. M. Boys, Wamego.	L. S. Campbell, Wellington.
Henry M. Bacon, Armstrong.	J. F. Bates, Nortonville.
J. H. Brown, Washington.	M. L. Campbell, Osage City.
W. H. Baldridge, Wyandotte.	

MINNESOTA PHARMACEUTICAL ASSOCIATION.

The second annual meeting of the Minnesota Association was called to order, June 15, by the President, W. S Melendy, of Minneapolis, who introduced Mayor Ames, who, after extending a cordial welcome to the Association, said: "The position of the druggists in society is a position of great responsibility. Upon you and upon your skill frequently depend many human lives. A mistake may mean death. It is, therefore, of the utmost importance that proper laws should be enacted in every section of the country, providing that those who deal out drugs shall be not only educated men, but persons intelligent and competent in every respect. There is much in your profession which should stimulate men of character and learning to enter it."

Dr. Sweeny, of St Paul, responded for the Association.

President Melendy then delivered his annual address, which we present in abstract.

The association, he said, had been in existence a little over a year. The roll-call a year ago numbered ninety-eight. During last year's session fifty-six were added, making a total of 154. He hoped every druggist in Minnesota not a member of the association would become so at once. The advantages of the society were many and great. They would be more readily seen and appreciated as the association grew and extended its influence. The president then enumerated the objects of the association, which are to elevate and render more efficient the practice of pharmacy by the dissemination of knowledge and the upholding of a high code of morals; discussions upon practical questions; sustaining the board of pharmacy; holding communication with corresponding bodies; securing proper legislative action relative to pharmacy; the enjoyment of social intercourse, etc. So far the board of pharmacy had been lenient in its action. This has probably been the best, perhaps the only policy to pursue for the initial years, but now that every one has had time to become familiar with the pharmacy law and know that it is only the incompetent person who has reason to fear its restrictions, it was to be hoped that hereafter it will be enforced with vigor. Those who have complied with its demands have a right to this, and furthermore, it will gain for the law the respect and confidence of the people. Every member of this association would back the board in an aggressive policy for the ensuing year. The president suggested that the association should assist the National Wholesale Drug Association in its endeavor to secure the discontinuance of the internal revenue liquor dealers' license as applied to druggists. He argued that pharmacy should take rank with the learned professions, and believed the time was coming when it would be recognized as among them.

As educa ion was a stepping-stone to all advancement, he would recommend that the Legislative Committee take measures next winter toward the establishment of a department of pharmacy in the State university. Under its learned and efficient President, this institution bids fair to take high rank in the near future, and the student graduating from this department would not only have the benefit of a thorough course of instruction, but the prestige of its name. He hoped that deliberations would be of such value that each person present may take away an elixir compounded of ideas, well tinctured with wisdom, needing no syrup to make it palatable.

The treasurer reported a balance of $288.22.

Mr. J. C. Eliel, representing the National Wholesale Drug Association, was then introduced to the association, and called attention to the resolutions passed by the national association, favoring the abolition of the internal revenue taxes. There could be but one opinion, he said, on the subject of this onerous, discriminating tax, in so far as it refers to alcohol, which is used in the arts and for mechanical and manufacturing purposes. It should be unhesitatingly condemned: First, because it hampers the manufacturer and prevents him from competing with those of other nations in the markets of the world, notwithstanding the fact that we can produce it as good and as cheap as any country on the face of the globe; second, because this tax was levied as a war measure, and there is no longer a ne

cessity or excuse for its continuation. He urged the association to take up this subject and vigorously express its sentiments thereon. The speaker called attention to the mutuality of interests between the retailers and the wholesalers. The latter, he declared, would always stand at the back of the retailers in all proper trade movements. It was the jobber, he claimed, who stood by the Campion plan.

The reason that plan failed was simply want of organization on the part of the retailers. What was needed was just such organizations as this in every State in the Union.

Dr. R. O. Sweeney read the annual report of the State Board of Pharmacy: The number of pharmacists who have been registered is 1,099. This includes assistant pharmacists. The number of Americans registered is 751, but little less than two-thirds of the entire enrollment. The tables presented in this report show that while the Americans properly lead the list in point of number, nearly every European nationality, and every State in the Union is represented among the Minnesota druggists. Eighty-nine claim to have graduated from different universities and colleges in the United States, twenty-five from European institutions and nine from Dominion institutions. The registered assistants number 168. The act regulating the practice of pharmacy, the report declares, has most assuredly done great good, and has put pharmacy far ahead of where it otherwise would have been at this moment without it. This view, however, was not shared by every one, as the board had been in constant receipt of complaints and anonymous communications from fault-finders and "kickers." The board recommends an amendment to the law, to empower the board to continue to grant learners or apprentices license as assistants, and also urges that the law should be so modified as to require every one desiring to practice pharmacy in Minnesota to pass an examination before the State Board, whether he has a diploma to show or not. The work of the board in placing the law in operation has been very arduous and exacting.

The association then adjourned to 2 P. M.

Afternoon Meeting.--First Day.

The meeting was called to order by President Melendy, after which the reorganization plan of the N. R. D. A. was indorsed.

Secretary E. B. Heimstreet, of the Wisconsin Board of Pharmacy, congratulated the association on its flourishing condition. Minnesota apparently had her spoke in the pharmacy wheel well fixed. The Wisconsin pharmacy law was giving good satisfaction.

Dr. A. H. Hollister, of Wisconsin, urged the importance of State and national associations. The Campion plan was the best plan that had ever been presented to the trade for maintaining the prices of proprietary medicines, and its failure was due to non-union among the retail druggists. In Wisconsin there was but little cutting and slashing of prices, and as the result the dealers stood high in business esteem. He urged the Minnesota druggists to strive to elevate the standard of the pharmaceutical profession.

Prof. Power, of the Wisconsin School of Pharmacy, congratulated the members on the prosperity of their association.

The following members were elected:

M. L. Formralz, John F. Danek, F. H. Weller, James W. Doran, Fred W. Ames, A. J. Smith, F. C. Weinholdt, J. W. Williams, H. L. Strohmeyer, C. H. Cirkler, Anson H. Rose, Gustave Lilja, Joachim Vedeler, Fran C. Harris, David W. Clark, Minneapolis; P. M. McCullough, William J. Gallien, L. Musetter, St. Paul; L. P. Fiuke, B. F. Henry, Farmington; Anton Olson, Blooming Prairie; Carl L. Peterson, Glenwood; C. A. Cromett, Wadena; Charles Smith, Worthington; John L. Johnson, Fergus Falls; Martin Molter, St. Cloud; J. Howard Sayles, Lake Crystal; L. A. Moore, Hodopp Wendel, Mankato; E. S. Strout, Monticello; Willard F. Pitt, Winona; Lodis Mignault, Stillwater; W. Joseph Huhn, George C. Weller, St. Cloud; George Weber, Rochester; John Schweitzer, Mapleton; William A. Greenwald, Anoka; E. Weschcke, New Ulm; W. W. Quiggles, Winnebago City; M. A. Scheldrup, Lake Park; A. J. Rice, Adrian; S. J. Boyce, Duluth; Albert Weiser, Preston; Carl L. Peterson, Glenwood; C. H. Weber, Taopi; Adolph Gibberson, Canby; G. O. Trow, Cokato.

The following officers were then elected:

President, J. R. Jones, Mankato; first vice-president, J. P. Allen St. Paul; second vice-president, W. C. Colbrath, Minneapolis; third vice-president, J. C. Waller, St Cloud; secretary, E. F. Allen, Minneapolis; treasurer, J. C. Heuing, Stillwater. Executive Committee, J. T. Gilmore, Minneapolis; D. D. Lambie and R. O. Sweeney, of St. Paul.

The selection for members of the State Board of Pharmacy was postponed till the morning session. The Association then adjourned till 10 A. M.

In the evening Dr. C. L. Mitchell delivered an address on "The Relations between the Physician and the Pharmacist." He showed that in the beginning the professions of the physician and the apothecary were usually combined in one person, but as the result of evolution these two departments had become separated, and were now "differentiated specialties." He showed how this separation had been of great advantage in both directions. It placed the compounding of drugs in the hands of men skilled and educated for the purpose, and furnished the physician with an agency by means of which many of his numerous blunders were corrected. The doctor concluded with the sentiment: "Those whom God hath rent asunder let no man join together."

After the address an enjoyable musical programme was presented by Miss Gertrude Daniels, Miss D. Cassady and Mr. Geissler, Prof. Clark officiating as accompanist.

Morning Session.--Second Day.

After the Association had been called to order, Messrs. Alfred Alther and Thomas A. Gardner, Minneapolis, Charles H. Brooks, St. Paul, and H. P. Barclay, Stillwater, were elected to membership.

Communications from P. A. Peterson, Cannon Falls, and George W. Noeson, of Hastings, denouncing the practice of many physicians of charging the druggist a certain percentage on their prescriptions, as a condition of continued patronage; and directing attention also to the evil of price-cutting, were referred to the Executive Committee.

A paper from D. A. Petre, urging the necessity of further legal restriction upon the sale of poisons, and suggesting the entire prohibition of their sale by retail druggists, except upon a written order from a physician, was referred to the Committee on Legislation, with instructions to report at the next annual meeting. Emil Weschcke, of New Ulm, was then introduced and read a paper describing an experiment in opium culture, which may be found in the June edition of the WESTERN DRUGGIST.

Dr. Sweeney reported that the State Board of Pharmacy had a balance on hand of $1,633.00.

The following appointments were then announced:

Delegates to the National Retail Drug Association and American Pharmaceutical Association—F. F. Stark, Minneapolis; Karl Simmon, St. Paul.

Committee on Papers—Emil Weschcke, New Ulm; J. H. Salle, Lake Crystal; W. S. Getty, St. Paul.

Legislative Committee—R. O. Sweeney, St. Paul, chairman; George Huhn, H. G. Webster, Minneapolis; S. K. McMasters, Karl Simmon, St. Paul; J. O. Hening, Stillwater.

Dr. Sweeney, on motion being made to meet at St. Paul next year, said: "Next year you'll vote to come to Minneapolis again, and Minneapolis will feel bound to outdo St. Paul in hospitality. The result will be that you'll never get away from these two cities, and our meeting will get to be such a big thing that nobody will want it. You had better go somewhere else, unless you intend to make this a local society."

The invitation of Dr. Weschcke to meet at New Ulm was then accepted.

Messrs. H. G. Webster, Minneapolis, E. Weschcke, New Ulm, George Webster, Rochester, B. F. Mickell, Moorhead, and D. A. Petre, Duluth were selected as candidates, from whom the governor will appoint one as a member of the State board of pharmacy.

The Association adopted the New York and Brooklyn formulary.

W. S. Getty, St. Paul, and E. J Allen, Minneapolis, were appointed as delegates to the annual meeting of the Wisconsin Pharmaceutical Association, and H. G. Webster and Dr. Stark were selected as delegates to the Minnesota State Medical Society.

THE ANNUAL BANQUET.

The first toast, "The city of Minneapolis," was responded to by Mayor Ames; Mr. Levi N. Patterson acting as toastmaster.

Dr. Ames said with pride of Minneapolis: "We are like a great, fat overgrown boy, with our pants up to our knees because we have grown through them, and with our fingers in our mouths. And in this attitude we welcome you. There were certain drugs the sale of which were very much restricted in Minneapolis. (Laughter.) You can't get any of these drugs on Sunday, because I am watching the parties who sell them."

Mr. Daniel Noyes responded to the toast "Our Sister City Ten Miles Down the Road." There was one thing in which the city of St. Paul had the lead over Minneapolis, namely, that St. Paul was the older city. (Laughter.)

Even the mayor of Minneapolis would admit this. (Laughter.) St. Paul is frequently mentioned in the New Testament, while Minneapolis is not mentioned at all. (Laughter.) There was an indirect reference to Minneapolis, however, in the Old Testament when the cities of the plain were spoken of. (More laughter.) Mr. Noyes then pointed out that St. Paul and Minneapolis have a common commercial enemy in the city of Chicago, and called upon the druggists of Minnesota to patronize the sister cities when they can do so without sacrificing their own interests.

Dr. Stone responded in fitting terms to the toast "The State of Minnesota." He paid a high compliment to the pharmacist.

Mr. T. K. Gray, of Minneapolis, the dean of Minnesota pharmacists, responded to "The Pioneer Druggists of Minnesota" in a very humorous vein. Mr. J. C. Eliel spoke to the sentiment of "The Drug Trade of the Northwest," and Mr. McMasters, of St. Paul, made a short and pleasant speech. To the toast "Jobbers as Retailers" Mr. A. M. Merihew responded. He remarked that after drinking so much coffee he didn't think anybody cared whether the jobbers retailed or the retailers jobbed. (Laughter) Seriously, however, he took the ground that a jobber had no business to retail his goods. The remaining toasts were "Self-Made Pharmacists." J. C. Henning, Stillwater. "The State Board of Pharmacy." Dr. R. O. Sweeney, of St. Paul, secretary of the board. "Druggists of the East," A. M. Merriam, secretary of the National Wholesale Druggists' Association. In addition to those elected the following members were present:

E. F. Allen, W. C. Colbrath, B. B Fullerton, J. P. Gilmore, Joseph R. Hoffin, H. E. Harter, George Huhn. W. K. Hicks, S. W Melendy, O. P. Plummer, L. N. Patterson, F. H. Scofield, T. F. Stark, H. G. Webster, A. Blackdahl, E. Bolink, Minneapolis; W. H. Carothers, George C. Davenport, G. A. Gotwold, W. S. Getty, R. O. Sweeney, K. Simmon, J. P. Allen, P. J. Dreis, D. D. Lamble, George Marti, George Nitsch, A P. Stierle, A. P. Wilkes, St. Paul; W. S. Amsden, Sauk Center; W D King, H. H. Meyers, Sleepy Eye; John S. Nelson, Carver; J. B. Heming, Stillwater; W. J. Saubern, Morristown; J. R. Jones, Mankato; J. M. Larrabee, Leroy; George N. Noesen, Hastings; F. M. Parker, Red Wing; A. O. Slade, Winona; J E. Styles, Glyndon; George S. Spencer, St. Cloud; L. Trautman, Reas's Landing; Dr. Weschke, New Ulm; J. Grinnell, Kasson; G. Hargesheimer, Rochester; O. D. Hutchinson, Hutchinson; W. W. Jewell, Pine Island; J. F. Leland, Elk River.

W. R. Warner & Co., Philadelphia, through their representative, Dr. Kennedy, Jr., showed a fine line of pills, parvules, etc.

The Irondequoit Wine Company dispensed some fine samples of wines through their representative, G. L. Chase

Parke, Davis & Co., of Detroit, Mich., exhibited some fine specimens of fluid extracts, alkaloids, etc. They were represented by J. R. Thompson.

The Cheseborough Manufacturing Company, of New York, displayed elegantly prepared specimens of their vaselin preparations.

Horlick's Food Company, of Racine, Wis., had a fine display of their "Foods," superintended by W. S. Scott.

J. S. Kirk, of Chicago, exhibited some beautifully arranged samples of their soaps. Their exhibit was under the care of W. F. Laurback.

John Wyeth & Bro., Philadelphia, had a well-arranged exhibit of fluid extracts, elixirs, compressed tablets, powders and lozenges, under charge of Mr. Oscar Tucker.

McKesson & Robbins, New York, had a beautiful array of pharmaceuticals, gelatin-coated pills and a full line of fruit juices, under the care of Mr. Stone.

The Goodyear Rubber Company, Minneapolis, displayed a full line of rubber goods, under care of Mr. Talmadge.

Noyes Bros. & Cutler, St. Paul, showed some beautiful surgical instruments and chemicals, supervised by Mr. A. B. Brand.

Chapman & Green, Chicago, displayed a full line of chemical and pharmaceutical preparations.

Seabury & Johnson, through Mr. Black, exhibited a full line of plasters.

The W. S. Merrell Chemical Company, Cincinnati, Ohio, had a fine display of hydrastis and other preparations.

The W. Bush Mfg. Co., Chicago, had a large exhibit of meat extracts and bovinine, under the care of H. T. Champney, the president.

Dolfber, Goodale & Co., Boston, exhibited a full line of Mellin's Food, under care of J. C. Angier.

B. Garcia & Co., Chicago, offered some fine cigars, under care of Mr. D. S. Pratt.

Rosenfield Bros., Minneapolis, exhibited some fine wines and liquors.

NEBRASKA PHARMACEUTICAL ASSOCIATION.

President Henry D. Boyden, of Grand Island, called the Association to order in the hall of the Omaha Exposition Building, May 11, at 3 o'clock.

After an address of welcome by H. T. Clarke had been responded to by Mr. N. A. Kuhn, the president delivered his annual address.

PRESIDENT'S ADDRESS.

He called attention to the high position which pharmacy occupied in Germany as contrasted with the fact that the American public failed as yet to comprehend that pharmacy was more than a trade. He ascribed the difference in the professional status of the German and American pharmacist to the fact that while the German pharmacist was rigidly required to conform to a high educational standard, the American educational requirements were not only too low, but were far from uniform. He then discussed pharmaceutical legislation in Nebraska, the causes of the failure of previous attempts in the enactment of pharmacy laws. The last bill had been vetoed by the governor on purely constitutional grounds. The Legislative Committee of the association had prepared a bill which would meet all the objections of the governor, and should receive the most careful attention by the association. He advocated an attempt to render uniform the pharmacy laws of the different States. He recommended the enactment of the Georgia law, regulating the sale of morphia salts. The legal exemption of pharmacists from jury duty was then discussed, and recommended. He referred to the death of Messrs. S. A. Brown, of North Bend, J. L. Hoge, of Lincoln, and C. C. Sargent, of Fairmount.

One hundred and fifty applicants were then elected to membership. Messrs. O. M. Oleson, Geo. W. Parr and D. W. Saxe were appointed a Committee on Examination.

The question of the indorsement of State representation in the National Retail Druggists' Association was referred to a special committee, consisting of J. T. Clarke, M. E. Schultze and J. H. Phelps. The treasurer then read his annual report, showing a balance of $261.14.

On motion the Association adjourned until 9 A. M., May 12.

Second Day.—Morning Session.

The president called the association to order at 9 A. M. On motion all visiting pharmacists were granted the privileges of the floor. Qualifications for membership being called up for discussion, Mr. W. B. Shryock stated that, in violation of the constitution, which required that no one should be elected to membership who had not been a pharmacist for four years, several persons had been favorably reported upon for membership, the length of whose experience was not known to the Committee on Membership. The committee was directed to see that the constitution was not violated.

Messrs. F. A. Morrel, Omaha; C. R. Hendy, Lincoln; D. D. Dan, Norfolk, and W. S. Eakin, Pawnee, were elected members.

A communication was here read suggesting that the association take action to secure the enactment of the Florida law as to sales of morphine. A motion that such action be taken was defeated by a vote of twenty to eighteen.

The secretary, F. P. Zimmer, then submitted his annual report.

Chairman Forsyth, of the Executive Committee, reported progress.

Mr. Clark then read the report of the Committee on Legislation, recommending the adoption of a draft of an act which is almost a verbatim copy of the very excellent Michigan Pharmacy Law. [As this act is presumably of easy access to our readers, we omit publication of the draft here.]

The Committee on Legislation was endowed with power to make such changes in the act as might be needed to secure its enactment. Thanks were then voted the Committee on Legislation.

Chairman M. Parr, of the Committee on Trade Interests, made a report, which was ordered on file.

Mr. O. M. Oleson gave an elaborate report on "Progress of Pharmacy."

Mr. E. A. W. Snell, of the Committee on Membership, reported progress. Mr. C. F. Goodman, chairman of the delegates to American Pharmaceutical Association, reported progress. Mr. N. A. Kuhn, Chairman of the National Retail Druggists' Association, made a brief report, and as Chairman of the Committee on President's Address, recommended that it be printed in the minutes, and on motion of Mr. Schultz the address as a whole was adopted by the association. Prof. O. A. Wall, of St. Louis, read a paper on the "Nomenclature of Drugs," in which he advocated the necessity of a thorough knowledge of pharmaceutical and chemical technology by pharmacists

and physicians. On motion the association adjourned until 2 P. M.

Afternoon Session.

The meeting was called to order and telegrams of greeting from the Virginia and Alabama Pharmaceutica-Associations were read.

Messrs. W. C. Lane, C. F. Goodman and M. Parr were appointed a committee to return these fraternal greetings. The report of the Committee on Exhibits was read and on motion adopted. The association then indorsed the efforts of the Wholesale Druggists' Association to induce Congress to remit the tax on alcohol used for pharmaceutical purposes, after which the association adjourned.

Third Day.

The minutes of the preceding meeting were read and approved.

A paper on "Do Fluid Extracts Deteriorate with Age?" was read by M. E. Schultz, of Beatrice. He claimed that in many fluid extracts precipitates occurred, due either to loss of bulk of the menstruum, or the menstruum used. Precipitates were not necessarily signs of inferiority, but might even be evidence of thorough saturation. Temperature changes and admission of light and air cause deterioration of fluid extracts, which, if protected properly, would remain good for years. He concluded that fluid extracts free from gum and volatile oils would keep to all intents and purposes unimpaired in value for years.

Query 2. "Ethereal oil, male fern, deposits a sediment on standing. Which is the desirable portion—sediment or clear oil?" Accepted by Mr. G. S. Peyton, Hooper, Neb., who decided that "the sediment contains the filicic acid, which is the true active principle, and owing to its absence from the clear oil, we conclude at once that the sediment is the desirable portion."

Query 4. "What is the most desirable pepsin in the market?" Accepted by Mr. Jas. H. Reed, of Nebraska City, who decided that there were several equally good pepsins on the market.

Omaha, the second Tuesday in May, 1877, were then selected as the time and place of next meeting. The election for office then occurred, with the following result:

President, James H. Reed, of Nebraska City; first vice-president, C. E. Borquist, of Sidney; second vice-president, M. E. Schultz, of Beatrice; third vice-president, Chas. H. Brunner, of Fremont; fourth vice-president, H. E. Wells, Omaha; fifth vice-president, W. D. Haller, of Blair; secretary, Chas. J. Daubach, Omaha; local secretary, N. A. Kuhn; treasurer, James Forsythe, of Lincoln.

Mr. W. C. Lane, of Lincoln, urged the pharmacists, regardless of politics, to work for the election of a governor who would not treat pharmacists as if they were disreputable members of the community.

The Secretary then announced the following queries, which were accepted as follows:

1. "What is the general quality of the pressed herbs of the market?" Accepted by Mr. H. D. Boyden, of Grand Island.
2. "There are in the market green and yellow protolodides of mercury. Which is the proper color? What causes the difference in appearance?" Accepted by Mr. Charles H. Bruner, of Fremont.
3. "Give a list of questions to test the qualifications of would-be apprentices, and state the requirements which should be demanded." Accepted by Mr. W. C. Lane, of Lincoln.
4. "What is the best method of preserving essential oils?" Accepted by Mr. F. P. Zimmer, of Grand Island.
5. "Are the so-called 'tasteless' preparations of iron equivalent to the official article?" Accepted by O. M. Oleson, of Omaha.
6. "Do stricly pure fixed oils contain any medicinal properties?" Accepted by Mr. Charles H. Brunner, of Fremont
7. "Is there a known solvent for celluloid, or is there a partial solvent? If so, what is it?" Accepted by Mr. W. C. Lane, of Lincoln.

The association then adjourned until 2 P. M.

Afternoon Session.

The President announced the committees for the next year as follows:

Executive Committee John J. Judson, Hastings; W. C. Lane, Lincoln; J. Koenigstein, Norfolk.

Legislative Committee, John T. Clark, Omaha; C. F. Goodman, Omaha; J. H. Harley, Lincoln.

Committee on Trade Interests, M. E. Schultz, Beatrice; W. D. Haller, Blair; H. F. Strietz, North Platte.

Committee on Pharmacy, O. M. Oleson, Omaha; V. Karleson, Lincoln; I. E. Riggs, Lincoln; H. H. Whittlesey, Crete.

Committee on Membership, W. Widener, Lincoln; H. S. Moody, Omaha; E. A. Snell, Omaha; O. Graschel, Omaha; Wm. McP. Fuller, Omaha.

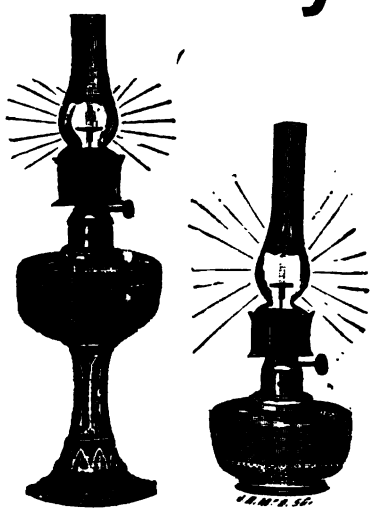
Delegates to National Retail Druggists' Association, H. D. Boyden, Grand Island; W. B. Shryock, Louisville; W. A. Harding, Oakland.

Committee on Programme of Next Meeting, H. T. Clark, C. F. Goodman, Jno. A. Fuller, D. W. Saxe, Max Becht, M. J. Waurch, Omaha.

Delegates to the American Pharmaceutical Association, C. F. Goodman, N. A. Kuhn, F. B. Kennard, Omaha.

The red label question was once more brought up, but ruled out of order. Messrs. J. J. Price, Hastings; R. L. Adams, Tekamah; W. J. Davis, Fremont; J. B. and J. A. Norcross, Sweetwater; W. P. McFuller, E. F. Fairchild, R Stanghor, H. B. Whitehouse, M. A. Dillon and W. J. Gladdish, Omaha, were elected members, after which the association adjourned.

Harvey Electric Lamp!



A Glass Lamp with a Central Draft Round Wick Burner, Working Entirely on a New Principle.

We will have this Lamp ready for the fall trade, and would advise all who are in want of Lamps to wait, or those who have the old style electric or other Lamps to dispose of or lay them aside, and

Get the "Harvey,"

As it is absolutely a safety lamp, giving the whitest, purest and brightest light of any kerosene lamp in the market.

The oil or lamp does not become heated in the slightest degree, and the current of cool air circulating through the oil and burner keeps the chimney so cool that it ***can be removed with bare fingers*** after burning for hours.

A trial of the lamp for a ***day*** or a ***month*** will substantiate the above statement. We will have stand lamps and founts in glass or brass, and the founts can be used on ordinary fixtures now in use.

GEORGE BOHNER & CO.,

—JOBBERS OF—

Lamps, Chandeliers, Glassware, Fruit Jars, Etc.,

55 & 57 Wabash Ave., CHICAGO, ILL.

A NEW PREPARED FOOD.—The Emerson Manufacturing Company, of New York, whose advertisement appears in this issue of the WESTERN DRUGGIST, is introducing a new food that is attracting a great deal of attention among the physicians and druggists in the East. Emerson's Albumenoid Food, as shown by the analysis, is prepared in accordance with the highest authorities on physiological chemistry. Unlike other foods on the market, it has a thoroughly substantial and recognized base—viz.: the pure albumen of eggs—and is unequaled in its nutritive properties and its varied usefulness. The following analysis speaks for itself:

	Per cent.
Water	5.50
Ash (containing 1.39 per cent. Bone Phosphate of Lime)	2.32
Total Albumenoids	19.25
Fat	5.49
Sugar	41.67
Starch (Gelatinized)	25.77
	100.00

MENTHOL.—Under the name of Peppermint Stearescense, Stearoptene of Peppermint and Peppermint Camphor, Menthol has been known and described since the latter part of the previous century, and tradition has it that to the Japanese and Chinese this substance has been known for centuries.

In 1871 this remedy came into more prominent notice through its use by the Chinese of San Francisco, and was made the subject of an examination by Flückiger in the same year.

In 1874 there arrived at London a consignment of both solid and liquid oil from Japan, and Mr. John Moss made an examination of the same, followed by Mackay, and in 1876 by Beckett and Wright. Since that year Menthol has steadily gained in importance.

Early in 1880 a large consignment of Menthol reached New York, and as the drug rapidly gained in popularity the shipments since received have been enormous.

In 1881 Dundas Dick, of New York, introduced the now famous Cone to successful use in this country, in which enterprise he was closely followed by other houses, until to-day there may be found some thirty makers of Cones of diverse grades of purity.

The chief adulterants of the Menthol Cones of the day are Paraffin, Salicin, Stearic Acid, and White Wax, the Cones manufactured by reliable houses being, as a rule, pure.—From paper by S. Casket in the Druggist Circular, June, 1886.

NEARLY A CENTURY OLD.—Glancing over some statistics we notice that the house of W. H. Schieffelin & Co. (whose announcement on page 34 is worthy of note) is nearly an hundred years old. The lapse of eight short years more will bring around its centennial, it having been established in 1794. Business houses, like men, spring up and flourish awhile and then disappear. It is almost as rare to find a firm an hundred years old as it is to find a man of that age, and just here we find a striking contrast; when a man lives to such an age we find him in a state of decrepitude, and as the poet says, "Sans eyes, sans teeth, sans taste, sans everything"—whereas, this house has grown and enlarged from year to year, until now, in the last decade of its century of life, we find it at the height of its prosperity and vigor, a leading house not only in its line, but among the notable merchants of the great metropolis.

What are the conclusions to be drawn from such a fact? This one sure, it must have started on and maintained sound business principles, and established a character for reliability and equity in its dealings from the first day to the last—on such a foundation how could it do otherwise than prosper? We hope another century may find it still prospering, still leading.

LEO BERNARD & CO.—The attention of our readers is called to the card of Leo Bernard & Co., 78 Maiden Lane, New York, and 117 Boulevard Richard Lenoir, Paris, France. The American branch of this house has been established for several years, and has gained a meritorious reputation among the trade of this country on account of the purity and excellence of the articles handled by them—their main effort being to supply the perfumer and manufacturing chemist with the best goods that can be procured in Europe, the first cost being a minor consideration, notwithstanding they are enabled to give the purchaser far better working and financial results, at less cost, than can be obtained from goods purchased at seeming lower prices. They are the sole agents in America for the following European houses, whose reputation is second to none: Louis Herman, Cannes, France, Pomades and fine Essential Oils; Bonnet Freres, Grasse, France, Essential Oils; D. Papazogloun, Kezanlik, Turkey, Otto of Rose; G. Delaire & Co., Paris, France, and Hermann & Reimer, Holzminden, Germany, Vanilline Crystals, Coumarine, Heliotropine, etc., etc. Importation orders are made a specialty.

PAYING POINTS ON PERFUMERY.—In these days, when users of perfumery are insisting upon high standard goods and perfection of style, druggists and other dispensers of perfumery have no alternative but to carry stock of the choicest goods attainable. To depend upon foreign markets was formerly the order of things; but that has all changed, and instead of the manufacturers of France and England furnishing the people of this country with perfumery, we find domestic products in largest demand; and prominent among the heaviest producers of choice triple extracts is the old Baltimore house of Vogeler, Son & Co., whose goods are known the country over, and praised everywhere as among the very best. Their "Fedora" (trade-mark registered) has proved a wonderfully popular perfume; and scarcely less so, their "White Heliotrope." Their line runs 60 odors, 40 staple, 20 new, and it would pay to write for descriptive list to the house at Baltimore, Md.

AN ELOQUENT APPEAL.—The Jerome Kidder Company makes the following eloquent argument for electricity in medicine: The effort and desire of mankind is to obtain freedom from the ills of the flesh, and in their journey through this world to receive its benefits and enjoyments, and to avoid the aches and sufferings that seem to beset the way. How to do it, and do it effectually, is the inquiry, and to answer it step forward thousands with some panacea for general or special troubles that harass the individual. The sick and weary ones grasp at one and another in the hope of relief, sometimes attained, but oftener it is only an illusion. Would they know a means of relief for many and many an ailment of the flesh? It is found in the proper use of some of the forces of nature. These, controlled, bring reviving strength, elasticity of body and mind, develop appetite, restore the functions of health, and the individual finds that old-time vigor and freshness that had seemed to have departed forever. No one force of nature has the same beneficent influence that has electricity, and the various devices of Jerome Kidder and his associates have turned this force of nature toward man's healing. Some have sought other ways of adapting it to usefulness, but this has been for man's direct benefit to personal happiness and to alleviate personal suffering. We therefore commend the Jerome Kidder Electrical Apparatus as the best of all the kinds that are manufactured to alleviate disease.

The attention of the trade is particularly called to the advertisement of the "Smith & Shaw Closed Cell Pocket Battery." Of all small portable batteries brought before the trade to date, none equal them in power and workmanship. They are simple and compact, working well under all circumstances, and what is best of all, give satisfaction to the dealer and user. Read the following testimonial which was given unsolicited:

Office of BULLOCK & CRENSHAW, chemists and importers, 528 Arch St, Philadelphia, Pa., Jan. 19, 1886. Smith & Shaw Elect Co.—*Gentlemen:* We think that the features of the *Closed Cell*, and regulation of the current by a graduated scale, give your pocket batteries advantages over competitors, and especially recommend it to all physicians for use in their practice. Of all that we have sold, we do not remember to have had a single complaint, but on the other hand, we have received many commendations of them from those who are actually using them every day with the greatest comfort and satisfaction.

Yours very truly, BULLOCK & CRENSHAW

OHIO PHARMACEUTICAL ASSOCIATION.

EIGHTH ANNUAL MEETING.

The Ohio State Pharmaceutical Association, whose eighth annual meeting opened at Black's Opera House, Wednesday morning, June 2, was organized in Columbus, in 1879, and incorporated in 1880. Its object, as stated in its constitution, is "to unite the reputable pharmacists and druggists of this State; to improve the science and art of pharmacy, to elevate its standard, and to restrict the practice of pharmacy to properly qualified pharmacists and druggists." The association has steadily increased in membership and influence since its organization, and its roll of members now contains about 900 names.

The association was called to order by William M. Melville, President, who introduced Hon. James P. Goodwin, Mayor of the city of Springfield, who welcomed the delegates in a few appropriate words. He said, in substance:

The time was when your profession was not considered a distinct and separate one. The corner grocers used to be the persons who put up pills and powders, but at the present time this business is done by a set of gentlemen specially trained for it, and the laws of our State require that none but competent men be in your ranks. While the old alchemist who searched for the elixir of life and the philosopher's stone failed to discover the source of all health and wealth, he extracted from nature secrets far more beneficial to mankind than would have been the realization of his wishes. He discovered agencies that have been powerful in relieving the sufferings of humanity. Your organization has been improving and popular opinion has consigned to you all that pertains to chemistry and the preparation of medicines. The chemist now is employed in almost every department of government and civil life. You have aided in detecting adulterations in food, and you are destined to exert a powerful influence on the health of the community. It gives me pleasure to say that we welcome you, and that we hope that your deliberations will be so successful and your visit so pleasant that you will have longings to come among us again.

The President returned the thanks of the association, after which the delegates proceeded to transact business under the rules as follows:

The Executive Committee reported fifty-eight new members to the association; after the report on the application for membership, the President addressed the association as follows:

PRESIDENT'S ADDRESS.

Ladies and Gentlemen of the O. S. P. A.—Another year has come and gone, and you are called upon to listen to the report of your President, one which ought to be both entertaining and instructive, but alas, how often the saying rightfully presents itself: "It might have been." Ours is a society we all ought to be justly proud of—I hope we all are. From its inception in the year 1879 until the present time we, or I should say many of you (for I am one of its newest accessions), have striven to make it second to none in the country. Note its growth both in influence as an educator and in members, in the few years of its existence. Commencing as it did with a mere handful at the meeting in Columbus, it now numbers nearly nine hundred. See what it has accomplished in the way of our Pharmacy law; see what the standard of our pharmacists and assistant pharmacists is as compared with the time when there was no O. S. P. A. Saloons cannot be started now with a mortar and a pestle for a sign of respectability, and I am very sanguine that the time is not far distant when our laws will be so improved upon that the calling of pharmacist will be looked upon as the most laudable one of all the professions. There is at present before the State Senate a bill which will very materially improve the efficiency of our Pharmacy law. The one I refer to is that introduced by Senator Van Cleaf—a new poison law, and in a measure due to our worthy member, President of the Ohio Board of Pharmacy.

At our meeting in Sandusky, last year, an amendment to our constitution was voted upon and declared carried by the chair, who was not very conversant with the by-laws. After the meeting and before the proceedings were printed, I discovered my decision was not in accordance with our constitution, and so notified our secretary, he placing my letter in as a part of such proceedings. The delay in publishing our last proceedings was largely due to the extra work entailed upon the secretary in his efforts to prescribe the size and therefore the cost of the work, which was very necessary in consequence of the depleted condition of our treasury. And while on this subject, I would specially call the attention of every member of our society to the fact that it is his duty not only to pay his own dues promptly, but see that all other members in his county or neighborhood do the same, thereby relieving our treasurer from a great deal of unnecessary work. A very little help from each one of us will very materially assist him.

Your secretary reports that he has been very materially helped by your committee of one from each county to act in connection with him in securing new members to the association. I would advise that additional committees be added to those we now have—one on insurance would be of much value to our finances as individuals, for by statistics I find we pay a larger percentage for indemnity than our neighbors, when in reality our risks are as good as many others. A committee on private formulary would be one which might be added with a great deal of advantage to all of us. It might be the means of adopting a line of formulas to be used officially in the State, similar to the New York State. A committee also on entertainment ought to be selected, for many members attend the annual meetings as a source of recreation as well as for the instruction and exchange of courtesies and fraternal greetings. We cannot always have such places as Cincinnati, Cleveland, Columbus and Springfield in which to hold our meetings, and smaller places won't want us because they can't afford it, but if we can have the entertainment committee they can act in conjunction with the local one and make our time pass very pleasantly while not at work. I would also suggest the advisability of having delegates elected to attend the annual meetings of other State Pharmaceutical Societies when not too far distant from our own State. I have received a communication from the President of the National Retail Druggists' Association which our secretary will read in due order.

The change you made at your last meeting in the installation of your newly elected officers was a very wise one indeed, for who but a trained parliamentarian can at a moment's notice take charge of the gavel and handle it as skillfully as it ought to be? I congratulate my successor heartily that he is to be spared the embarrassment inflicted on me at Sandusky. While we rejoice at the increase in our membership, yet must we pause and drop the tear of sympathy in memory of those of our members who have been called home.

A new feature in the shape of prizes for the best papers has entered into our society since our last meeting, and it is one which I trust will be of special advantage, by stimulating our members to better efforts in the number of answers to the questions propounded by our committee on papers and queries; and right here let me impress upon this association the importance of giving plenty of time for the reading of the papers as prepared, for who is there among us that wants to give time and study to preparing a truly valuable paper and at our meetings be told, "Oh, well, you will see it printed in the proceedings, no time to read it now." Add another day if necessary to our time or work nights; nothing will tend sooner to deprive us of these valuable adjuncts to our meetings than this seeming indifference to carefully prepared papers, to say nothing of the injustice done your committee on papers and queries. Your secretary has prepared his report and will read it at the proper time. At our meeting in Sandusky he was entirely overlooked in the matter of compensation for his services for the preceding year, and I would suggest that an order be drawn on the treasurer for a suitable amount to compensate him for the work of the last two years. The work he has to do and the time it takes to do it are not appreciated by us unless we have the actual experience in it, as I have had the past year. Your treasurer will bring to your notice the condition of the finances of our association. I am very sorry he cannot make a better report, but if the members fail to respond to his oft-repeated appeals for their dues, how can it be otherwise? With a membership of nearly nine hundred and our yearly addition it ought not to be so. Let us all constitute ourselves a committee of one to see to it that it is not so at our next annual. The Secretary of the Ohio Board of Pharmacy will submit his report in its regular order. By the results published, we find there are quite a large percentage of failures to pass the examinations. What method ought to be adopted to lessen such failures? In our larger cities we have colleges, and there is, or ought to be, no reason for it, but in the smaller towns we need more than the training of the store. I would advise the use by students of the lectures of Professor Hallberg, of Chicago. They are sent out monthly, I think, and within a measure supply the place of colleges to those who cannot afford the expense or secure a position where they can avail themselves of the privileges of such. To our local secretary and his assistant, aided by your committee in the city, are due the thanks of the association for their untiring efforts in our behalf.

At our meeting in Cincinnati it was deemed best, by a committee appointed at that time, that the expense of the exhibit shall be borne by the exhibitors. This year your assistant local secretary reports that so few signified their intention of attending that it was deemed best to abandon that feature. Now whether this was on account of the nominal charge of five dollars to each exhibitor (only enough to defray actual expense) or that the meeting of the Ohio Medical Society this week, at Akron, was a much greater attraction to the average exhibitor, I cannot say, but would surmise the latter. There is no loss without some small gain; we will have more time to devote to the interests of our association. Your committee on Pharmacy laws has a report of interest this year, there having been an effort put forth the past winter to interfere with or change our Pharmacy law. Your committee on trade interests have, I understand, a very interesting report. And now, kind friends, as I soon shall relinquish to you the distinguished honor you so kindly put upon me at our last meeting, I desire to thank you all for the uniform courtesies you have at all times extended to me, and I ask for my successor the same kindly treatment at your hands. Again thanking you for the honor and your kind attention, I bid you adieu.

The address was referred to the following committee appointed by the Secretary: George Merrell, of Cincinnati; E. J. Melsheimer, Shelby; H. D. Cornell, Dayton.

Secretary L. C. Hopp reported that official reports of the proceedings of the last annual meeting had been sent to the various pharmaceutical journals. The members elected received notice and certificates of membership soon after election. Various firms sent in bids for printing the proceedings, which were printed by the lowest bidders. The New York State Association's Secretary had brought up the subject of uniform annual reports and it was agreed to conform future reports to the New York model. The printing of the transactions had resulted in the same forms being used to supply the members with copies of the by-laws at a low cost. The British Pharmaceutical Association had sent a vote of thanks for a copy of the transactions. The committee of one from each county appointed by the President had been notified and nearly all expressed a desire to serve. The circulars sent out in accordance with the plan adopted last year had resulted in a handsome increase in membership.

Treasurer Chas. Huston, of Columbus, reported a small baance on hand, and tendered his resignation, which were referred to an auditing committee: Messrs. M. L. Mooney, Covington; Philip Acker, Cleveland, and R. Pretzinger, Dayton, who report in favor of the adoption of the report and the non-acceptance of the resignation.

COMMITTEE ON TRADE INTERESTS.

The Committee on Trade Interests presented a report as follows:

The subjects of interest to the trade embrace such a wide range that

your committee can only touch upon a very few of those we consider most important.

We find that throughout the State the year past—with very few exceptions—prices of drugs, and notably patent medicines, have been maintained at the regular rates, and for this result we give the credit largely to local associations, aiding those in the trade in becoming better acquainted with and having more confidence in each other. The principal exception to above is in the city of Cincinnati, where our friends seem to act on the theory that heroic treatment of an evil will effect its cure the sooner, and cutting has been carried to the extreme, embracing not only patent medicines, but chemicals, prescriptions, and almost every article kept by the trade.

Your committee think the National Retail Dealers' Association should be sustained as embracing a larger field of operation, and while it has not accomplished as much as its friends had expected, it has no doubt succeeded in drawing the attention of druggists to many of the difficulties under which we labor, and to have them pointed out is the first step toward having them remedied.

The prices of drugs and chemicals have been comparatively uniform during the year, and have ruled low, especially quinine, cinchonidia, opium, morphia and the other staples, and they do not seem to have been influenced to any extent by speculation, dealers buying only to supply immediate wants.

Our pharmacy law has been valuable during the short time that it has been in operation, and will doubtless be much more efficient in the future, in weeding out the incompetent, and preventing those who are ignorant of the first principles of pharmacy, from entering the business, starting stores where there are already more than the trade will justify, thinking that by reducing prices they will get all the patronage from the older and longer established druggist.

There is a class of persons in our smaller towns who have general stores, and who combine a few drugs, tinctures, fluids, extracts, etc., hang out a sign as a drugstore, put up recipes and a few prescriptions from the doctor located in the village, who has never been registered by the State board, and are doing business in violation of law, and injuring the legitimate trade to quite an extent. Is it not the duty of our board to look after such parties?

Our new liquor law, while no doubt as applied to the saloon business, is just and right, will work an injury, or at least an annoyance, to a portion of the trade. There are persons who use liquor only as medicine and keep it in the house for any emergency that may arise, who do not wish to apply to a physician for a prescription when needed. A strict construction of the law would require them to be sent to a saloon for their supply, or the druggist to pay two hundred dollars for the privilege of selling to such of his patrons.

The wording of the law seems to place the pharmacist under the guardianship of the physicians, who, as a class, are no more conscientious than druggists.

Your committee think that while there has been a general depression in all kinds of business during the year that is past, the drug trade will compare favorably with other years, both as regards the amount of sales and the profits of the same, especially by those who have been established in business, and have the confidence of the community where they reside.

[Signed], Thos. Johnson, Steubenville; J. C. Fenner, Shiloh; C. B. Johnston, Middletown, Committee on Trade Interests.

REPORT OF COMMITTEE ON PHARMACY LAWS.

The Committee on Pharmacy Laws submitted the following:

The subject of pharmacy laws has grown to such vast importance to our profession, that it is more than ever necessary for them that have the welfare and prosperity of our calling at heart, to give their co-operation to still further improve the law, that it may work justly and equally over the State.

Our legislators in their last session have not forgotten us, but added more laws to our existing ones, and offered several amendments which would have crippled the good features of our present laws, and would have opened the flood gates and swept every particular good attained by the law away. But fortunately the wisdom of our law makers prevented and voted down all measures that were antagonistic.

The "Hubbard bill" became a law last winter, to regulate the sale of morphine. The same law has been agitated throughout the United States, and has been adopted in a number of the States.

Mr. Hubbard, one of our members from Tiffin, elected to the legislature, has kindly watched the interest of our profession at the last session of the legislature, and has saved your committee a great deal of expense and labor, for which we wish to extend him our hearty thanks. "The Van Cleaf poison law," is also pending in the Senate; we do not wish to discuss it at this time, but would refer it to the association to take some action as to its usefulness.

During the last year there has been considerable complaint on account of violation of the law, and your committee has not heard of any case that has been prosecuted. Pharmacists generally feel delicate to be prosecutors for it may be construed to look as though there existed business jealousy. We therefore recommend that the pharmacy law be so amended as to make the pharmacy board the proper officers to prosecute violators of the law. A provision similar to this has been adopted in many other States.

[For the full text of the Hubbard morphine law, see the W. D. for June, page 206.—Ed. W. D.]

We would further recommend that either the association, or the pharmacy board appoint a committee in each county to look after violators and report same to the board. Your committee would further recommend that the law be so amended as to excuse duly registered pharmacists from jury duty.

[Signed,] G. L. Huhler, Cleveland; R. G. Williams, Alliance; J. A. Reid, Wauseon; Geo. Eger, Cincinnati; Chas. Huston, Columbus, Committee.

President Melville appointed the following committee to nominate officers: Chas. Ludlow, Springfield; J. A. Nipgen, Chillicothe; F. A. Kautz, Cincinnati; S. S. West, Cleveland; F. M. Heath, White House; R. Pretzinger, Dayton; F. Harrington, Logan; W. H. Johnson, Middletown; C. D. Reed, Pomeroy.

The executive committee submitted the following report:

Your committee begs leave to say that it was kindly relieved from the duty of publishing our annual report, by the kindness of the secretary, who had the work done in a creditable manner. The kindness of the Cincinnati druggists has enabled us to present with each copy of the transactions a splendid lithograph of Prof. A. Fennel, whose life and works will always be a beacon guiding us on to greater proficiency in our chosen calling.

In order to present our transactions in volumes of a uniform size, we, together with all other State pharmaceutical associations, have adopted this year as a standard that of the New York State Association, and recommend that it should be the size of that book hereafter.

There has been considerable diminution of the former cost of distributing our transactions this year by having the books sent by express to certain druggists in the large cities, and being by him sent to the other resident members of the society. We would recommend that this method be adopted in the future.

After consultation with the local secretary of our society, it was deemed advisable to dispense with our usual exhibit of pharmaceutical preparations, apparatus, etc., as owing to the long delay in sending our circulars to manufacturers and dealers, it was impossible for us to secure a sufficiently large and creditable display. The increase of membership at last meeting was seventy-seven, and we hope to see a large number join our association at this session. Since our last meeting eleven of our members have rested from their labors, and passed through "the dark valley of the shadow of death." It is with deep sorrow that we contemplate this list of our honored dead, taken from us in the period of their greatest usefulness, and the years of greatest promise. That but one of our departed comrades had passed his fortieth year cannot but excite serious reflections, and admonish us that we know not the time of our departure or the completion of our work. Before submitting the report the committee gave a short sketch of the life of each member that had died during the year, viz.: Charles Faust, of Cincinnati; E. M. Fleming, of Miamisburg; C. A. Rehfuss, of Greenville; Wallace F. Baush, of Zanesville; Augustus A. Limb, of Akron; Lemuel Sawyer, of Milford; E. D. Bryant, of Circleville; J. E. Andress, of Berlin Heights; Frank E. Wines, of Vermillion; Clark M. McClure, of Columbiana; A. W. S. Minear, of Athens.

The report of the committee was referred to a committee of five, consisting of T. L. A. Greve, Cincinnati; J. A. Nipgen, Chillicothe; F. M. Heath, White House; F. A. Kautz, Cincinnati; D. R. Arnold, Sandusky.

On motion adjourned to 2:30 P. M.

Afternoon Session—First Day.

The President's address was referred to a committee appointed by the secretary, consisting of Messrs. Merrell, Melsheimer and Cornell. The minutes of the morning session were read and approved.

The secretary read several communications and telegrams; the following was received from Boston: "Our fellows at the Hub salute their tired co-laborers on the Miami. We have added one hundred to our membership at first session. Our best wishes are with you. J. W. COLCORD, Secretary." A reply was sent to this telegram in response to a motion that was adopted.

The credentials of delegates from the National Retail Druggists' Association and the New York State Pharmaceutical Association, and a communication from the N. R. D. Association, were received, read and referred to a committee of three.

A motion was adopted to send a telegram of greeting to the Ohio State Medical Association, in session at Akron.

The Secretary read the report of the committee on nominating officers and on motion the secretary was instructed to cast the ballot of the association for the following officers:

President, Virgil Coblentz, Springfield; *First Vice-President*, C. N. Nye, Canton; *Second Vice-President*, M. D. Fulton, Bucyrus; *Permanent Secretary*, Lewis C. Hopp, Cleveland; *Treasurer*, Charles Huston, Columbus; *Executive Committee*, George W. Voss, Cincinnati; Theodore Troupe, Springfield; D. R. Arnold, Sandusky.

The auditing committee reported that they had carefully examined the treasurer's accounts and found them correct. On motion the report was adopted.

Messrs. C. T. Inman, W. W. Kelly and C. A. Smith, as the committee on time and place of next meeting, reported that the association meet at Akron, on the second Wednesday of June, 1887, which was adopted.

Mr. J. A. Nipgen offered the following resolution which was adopted:

Resolved, That the President shall appoint from the members of the association a committee on Revision of the Pharmacopœia, consisting of three members, who by education, professional ability and good judgment are fitted "to submit the Pharmacopœia to careful revision," and to take part in the deliberations of its seventh revision; and said members to serve as delegates from this association in the general convention to be held for that purpose in Washington, D. C., on the first Wednesday of May, 1890.

The members indulged in an informal discussion of the "Dow Liquor Tax Law."

Mr. Merrell moved that a committee of three be appointed to consider the special United States tax assessed upon druggists as liquor dealers and also the tax on alcohol and spirits, and that this committee correspond and act in conjunction with the committee of the National Wholesale Drug Association, appointed to consider the same.

The privileges of the floor during the session were ex-

tended to Mr. H. M. Whelpley, of St. Louis. Adjourned to 7:30 P. M.

Evening Session—First Day.

The committee on the President's address submitted the following report:

Your committee to whom was referred the address of the President, beg leave to present the following report: The reference contained therein to legislation, will come before the association in the reports of the several committees having these special matters in charge. The recommendation advising a committee on Fire Insurance, may be deemed by some of advantage to the interests of the association, but the practical benefit of such a committee is not fully appreciated by the undersigned. Your committee may not be fully aware of the duties expected of such an addition to our working committee, hence they suggest its reference to the association for action, without recommendation. Committees on private formulary, i e, formulæ for preparations, such as elixirs, syrups, wines, etc., have done a valuable work in kindred associations, and the appointment of the committee as suggested by the President, is recommended as a valuable addition to the list of standing committees. This committee would state, however, that the approval of the New York and Brooklyn formularies by the A. P. A., largely supplants the work of any special committee appointed by this body, but in actual experience many of the formulas above alluded to are, or may be found defective, and such defects reported to this committee would be of great value to the nine hundred members of this body.

The appointment of a committee on entertainment is open to objections which have been fully canvassed by your special committee and is not recommended for the reason that true hospitality goes only so far as the inclination and means of the host will permit, and any entertainment desired by a committee of the State at large is calculated to destroy the business and profit of the association as a scientific body.

Courtesies between the National Wholesale and the National Retail Associations, as well as associations of sister States, are pleasant and profitable, but as committees could visit very few States while in session, it is recommended that the suggestion of the President be so modified as to provide for the addition of a standing committee on "Fraternal Relations," whose duties shall be to extend annually, and as often as necessary to sister associations the kindly greetings and sympathy of this body, and to suggest consideration of and co-operation in any work in which all are mutually interested. The suggestion of the President relative to the secretary's salary, is one requiring the prompt action of the association, and your committee recommend its adoption, viz: That an order be drawn on the treasurer for a suitable amount to compensate him for the work of the last two years.

The question of exhibits at the annual meetings should be decided in the interest of all concerned, and in view of the action of the A. P. A. at Pittsburgh, the O. P. A. should place itself on record on this subject. To bring the matter before the association, your committee recommend that the annual exhibition of all articles pertaining to the drug trade is an interesting and instructive feature of the meetings of the association, and that such exhibitions should be encouraged, provided, however, that all articles to be exhibited shall come within the limits of the by-laws of the association. The committee's report was adopted, except that portion relating to the appointment of an entertaining committee, which subject was referred to a select committee of three, to report at the next annual meeting.

The following were elected as delegates and alternates to the American Pharmaceutical Association, the first five being delegates and the remainder alternates: G. P. Heckler, Cleveland; Charles Ludlow, Springfield; G. W. Voss, Cincinnati; Theodore Troupe, Springfield; J. D. Wells, Cincinnati; H Boyer, Washington Court House; C. T. Inman, Akron; J. Feil, Cleveland; S. W. McKeown, Youngstown; L. W. Sauer, Cincinnati.

REPORT ON PAPERS AND QUERIES.

The Committee on Papers and Queries reported that their efforts met with considerable success again this year, both in number and value of the papers contributed. "We sent out our first issue of printed lists of queries during September, the answers coming in very slow. This continued thus till in March, when we received notice that Messrs. Benton, Myers & Co., of Cleveland (fulfilling the hopes and expectation of your committee's last year's report) would offer two prizes for the best answers to queries proposed through our association, the first prize consisting of a Troemner balance, not to exceed twenty-five do lars in value; and as a second prize a Benton & Myers combination suppository mold, worth eight dollars. We also hop that more time be allowed for the presentation of papers, which will be so presented as not to be burdensome to the members nor occupy your time unnecessarily. When our members undertake to devote their time and money to the elaboration of papers we must not set them aside indifferently, but encourage their work by giving them at least a hearing. With these suggestions we beg leave to submit our report."

The report was adopted, and the chairman read the first paper, entitled "When powdered borax, bicarbonate of soda, glycerin and water are mixed together, effervescence occurs; what is the reaction?" by Frank A. Bauer, of Columbus.

Adjourned.

Second Day's Proceedings.

The association commenced work by the secretary calling the roll, after which President Melville read the following standing committees:

Committee to Fill Vacancy on Pharmacy Board—T. L. A. Greeve, D. R. Arnold, G. F. Burton, F. Harrington, G. M. Schamps.

Committee on Tax, Special and Alcohol Spirits—Thos. Johnson, Steubenville; Wells and Miller.

Committee on Entertainment—P. E. Montanus, Springfield; J. H. Emrich, Sandusky; C. D. Reed, Pomeroy.

Committee on Formulas—J. D. Wells, Cincinnati; T. D. McFarland, Canton; J. H. Von Stein, Upper Sandusky.

Committee on Fraternal Relations—Geo. Merrell, Cincinnati; Ralph Cobb, Cleveland; G. B. Kaufman, Columbus.

Committee on Exhibits—Grether, Warner, Alexander.

Prof. Lloyd called attention to the WESTERN DRUGGIST, which contained a picture of Prof. Edward S. Wayne, recently deceased.

The committee to whom was referred the Van Cleaf poison bill reported that they approved of the bill in its principal features, but advised the Pharmacy Law Committee to endeavor to have the provisions referring to articles specified in schedule B of the bill made more definite, so that aqua ammonia, iron salts and similar articles, when wanted for technical purposes, may be sold by persons other than registered pharmacists or registered assistants, and to have inserted such provisions as shall make the enforcement of the law probable.

Dr. Greeve read the provisions of the Van Cleaf bill, which were discussed at some length by Mr. P. H. Bruck, secretary of the Ohio Board of Pharmacy, by Mr. Whelpley, of St. Louis, Mr. Heath and others.

The prevailing opinion was that the association should recommend the enactment of some poison law similar to Senator Van Cleaf's bill, that some of the members thought that the country druggists and groceries be permitted to sell Paris green, aqua ammonia, etc. The report of the committee was received, ordered spread on the minutes, and a committee was appointed to carry into effect its suggestions.

Mr. Heckler, of the committee to whom was referred the communication of the National Retail Druggists' Association relative to the appointment by the State Association of delegates to attend meetings of that body, reported favoring the plan of reorganization suggested in the communication, but did not recommend the payment by the association of the expenses of delegates; and Dr. Greeve thought the association should not approve the plan, and moved that the report of the committee be received and filed, the committee discharged, and the whole matter tabled. This motion was carried. Secretary Bruck read the report of the Ohio Board of Pharmacy, showing the number of applicants examined to practice as pharmacists and assistant pharmacists. The report also showed the financial condition of the board, and expressed the opinion that it would be self-sustaining for eight or ten years to come with the present rate of fees.

Article 1 of section 5 of the by-laws was amended by the addition of two committees—one on "National Formula" and one on "State and County Correspondents." The Committee on Awards of Prizes, after a careful examination of the papers presented, reported that Mr. Simonson, author of the paper on query No. 31, was entitled to the first prize, and awarded the second prize to Mr. Joseph I. Beck, of Springfield, who read a paper on the "Purity of Our Commercial Santonin." These two papers were then read in their order.

The resignations of a number of gentlemen who had left the State or gone out of the business were presented and accepted

Query No. 31: "Is it advisable to prepare Spiritus Ætheris Nitrosi from the concentrated nitrous ether of the market," was answered by W. W. Simonson, Cincinnati.

The manufacture, it was stated, of the "concentrated" nitrous ether of the market was induced by the changes in the official process, which directs the production of nitrous ether and its solution in alcohol after being washed with water. Owing to the convenience with which this concentrated ether could be employed by pharmacists for preparing the spirit as wanted, and the saving in cost and freight of alcohol thereby, these products have come largely in use. Experiments were therefore undertaken with a view of determining how near these products contained the amount of nitrous ether claimed for them, and also the percentage amount ethyl nitrites, or rather total nitrites in the spirit nitrous ether prepared according to the directions accompanying the various specimens.

Ten samples from different manufacturers were examined by the method of Allen (Pharm. Journ. & Trans.) in which the percentage

of $C_2 H_5 NO_2$ is determined by the volumes of N O given off when the ethereal mixture is acted upon by a solution potassium iodide and dilute sulphuric acid in a glass tube, termed a *nitrometer*. From the number of C. c. of gas thus liberated the percentage of total nitrites is computed with corrections for temperature, pressure, vapor tension and solubility.

These experiments were exceedingly elaborate, showing careful work of a high order. In 4 specimens examined the percentage of total nitrites were about 90 per cent., or fully up to the value indicated upon the labels. For the remaining no strength was claimed, except in one where the directions for preparing the spirit indicated that it was half the strength—they all claimed, however, to be *strictly* U. S. P. Five of the specimens were all so poor in ether they must be dropped from comparison with the others, and it is to this feature that attention is especially directed, since by no other means except an accurate assay, could their comparative worthlessness be established or even suspected. The spirit obtained by dilution as directed upon all the specimens was found to contain varying percentages of ethyl nitrite 1.4 to 3 per cent., the U. S. P. test prescribing 4 per cent. As to what the actual percentage is, remains yet to be determined.

The conclusions arrived at are that there can be no objection to prepare spirits of nitrous ether from the concentrated ether, provided it bears a truthful assay label and comes up to the requirements. But the decision based upon this investigation must be, that commercial concentrated nitrous ether is too variable in strength to merit confidence, and that its use for the purpose intended should be discouraged.

Prof. Lloyd: This paper is a very interesting one, and doubtless will lead to valuable results. The subject of the manufacture of nitrous ether is in an incipient stage. The Pharmacopœia of the United States recognizes five per cent. of crude ether as the standard, and it is not as yet determined, in my opinion, as to whether the real medicinal principle of nitrous ether is altogether this nitrite of ethyl which we are determining the value of in these experiments. I am very glad indeed that manufacturers' names were not given in those experiments, because it is very doubtful whether these commercial concentrated ethers can be made and kept uniform in composition and in strength. The Pharmacopœia strength is five per cent. I do not make the concentrated nitrous ether for sale in the concentrated condition. I doubt very much if the manufacturers can make an article that will keep, unless they dilute it more than ten per cent. with alcohol during the summer months, and perhaps also during the winter. Perhaps they should not be censured for weak concentrated nitrous ether that has stood for some time on the shelves of druggists, or has been some time on their hands. I am surprised at the uniformity of these percentage determinations, and that the average is so near ninety for five determinations.

Mr. Merrell: I fully agree with Professor Lloyd in regard to the statement he has made as to the advisability of the sale of concentrated nitre. I think that one of the Eastern houses may be considered largely responsible for the introduction of it, and those of us who are engaged in competitive work were naturally compelled to offer a like product in order to meet the conditions of the trade. Of course we are all aware how and why this is introduced. It is a strictly commercial matter—one involving the question of economy as to freights and as to safety. There is growing up a large demand for a concentrated nitre, so called, which is less than one to nineteen; because it is claimed, in the first place, that one pound of such a strength makes more U. S. P. spirit of nitrous ether, or, at least, is supposed to make more than the average retail druggist cares to produce at one time. There is, therefore, a demand for a concentrated nitre one to six, one to eight, one to nine; and if you will notice the advertisements, you will see that these different strengths are offered at prices corresponding to the degrees of strength.

Prof. Lloyd has alluded to the difficulty of preparing this special article, and I will bear him out in the statement, that it is almost impossible to produce a concentrated nitre which will keep any length of time; and in selling it and in offering it for sale our people simply fall into the trade custom of providing that which is demanded. But I do not believe that this article can be kept in the hands of the wholesale dealer or the retail dealer and make a nitre which will conform, strictly speaking, to the standard of the U. S. P.

Prof. Lloyd: Speaking of the decomposition of this nitrous ether, the process by which it is made is very simple. Any one can try the experiment. All that we want is a retort and a condenser, a little nitric acid and some alcohol. Mix the alcohol and the nitric acid together in the retort, and take the first distillate that comes over; add to it water, and the nitrous ether will immediately rise to the top of the liquid and can be drawn off by means of a separating funnel. As soon as drawn off it will decompose and bubbles will rise through it. If it is attempted to keep it for a day, it will be found that it will become acid. It cannot be kept; and it is a rule, I believe, in most laboratories that it shall not be kept, even for a few hours. The addition of alcohol tends to preserve it, but it requires a considerable amount of alcohol to keep it without much decomposition, and alcohol of the sp. gr. of the U. S. P. '70, 0.835 will not keep it as well as alcohol of the sp. gr. of 0.820. With a very concentrated alcohol it will keep for many months without becoming acid.

Prof. Coblentz: I think that the writer of the paper did not intend to reflect at all upon the manufacturers, because, as has been stated by Prof. Lloyd, nitrous ether is readily decomposable and very difficult to preserve, and when bottled and placed on the market by the manufacturers, we do not know how long it has been kept or the condition in which it has been kept when we obtain it. The very best sample may lose a large percentage, and when it comes to be examined may yield a very low percentage of nitrous ether. But the main point of the operation was to illustrate the method of assaying, so that any pharmacist can carry on the operation himself and determine the strength of his own nitrous ether. That was one of the main points in the illustration of this apparatus.

Prof. Lloyd: I do not think that the most valuable part of that paper is that experiment. I think that one of the most valuable features of the paper is the demonstration of the unreliable nature of the concentrated nitrous ether of commerce. Mr. Wm. Saunders, of London, Ontario, Can., induced me to make for him some years ago several lots of concentrated nitrous ether and I expressed them to him. I used three parts of alcohol, and even then in the end, I think, it proved unsatisfactory.

Report of the Secretary of the Ohio Board of Pharmacy.

The Secretary of the Ohio Board of Pharmacy is instructed by the law regulating the practice of pharmacy in our State to make an annual report of the State Pharmaceutical Association, as well as to the Secretary of State. This being the case, he reported a synopsis of the work performed, as well as a statistical statement of the results. Since the report made last year, the Board has held examinations as follows: Toledo, August 4, 1885; Cleveland, October 12, 1885; Cincinnati, January 11, 1886; Columbus, May 10, 1886. At these examinations there appeared three hundred and eighteen persons, of whom one hundred and eighty-four were examined in order to register as pharmacists, and one hundred and thirty four to register as assistant pharmacists. Number of pharmacists registered to May 1, 1886, 2,976; number of assistant pharmacists, 1,049. The Secretary says, it is astonishing to find in the examination papers the evidence of how little regard the pharmacists pay to the competency of their apprentices. Everywhere there is proof of their utter ignorance of the English language; their handwriting is illegible, their spelling horrible and their knowledge of mathematics very inferior, many being incapable of solving common problems in arithmetic. In the same line is found a dense ignorance in regard to the most simple pharmaceutical manipulations or processes, be it percolation or maceration, distillation or filtration; on all sides is found the urgent need of a more careful selection of our apprentices. No State in the Union offers to the public better facilities, and cheaper, for acquiring a good education, and therefore the young man who intends to make the practice of pharmacy his profession ought to be a graduate of the high schools of our State, and if not, ought to possess the knowledge demanded of the graduates of such institutions.

Having chosen his profession, the apprentice ought apply himself diligently to study (being given the proper time to do so by his employer) and take advantage in the practical work in the store to thoroughly master every job. In many instances it is found that the employer has not in his store any of the text-books needed, and the apprentice is forced often to purchase them for himself and for the proprietor's use, if he is anxious to be studious, and make himself an able pharmacist. I would particularly call the attention of the profession to these facts, and trust they will give the proper aid and encouragement to the apprentices of to-day, who will be the pharmacists of the future. If the present law is to be of benefit to the profession and to the public, this Association must devise means for its proper and prompt enforcement. The Secretary is in receipt of communications, duly asking that this party or that party be prosecuted for violating the law, and to all of these the Board is forced to reply that it can do nothing, as the law does not authorize, nor make it the duty of the Board to investigate such proceedings. It behooves that the members of our own Association should be careful not to do anything that might be construed a violation of the law, and by our own respect for the law and its specific provisions give to others an example to follow and imitate. The public evidence that a person is permitted and authorized by law to practice pharmacy is the certificate issued by this Board, and that certificate ought to be conspicuously exposed in the store to which it applies, so that the public may see the evidence of competency, and may judge by the absence of such certificate that the person owning or managing the store is not legally permitted to practice pharmacy, and ought not be recognized by the public as a proper person to supply them, the public, with their wants.

The death of Prof. E. S. Wayne having produced a vacancy in the Board, Governor Foraker appointed John Weyer, of Cincinnati to fill the unexpired term. Mr. E. M. Hatton, whose term of office expired in April, was honored by Governor Foraker, by a re-appointment, an honor well deserved, and appreciated by his co-members as well. Accompanying the report is an alphabetical list of the persons registered since the last report, and the report also shows that the financial condition of the Board is good.

Final Session.

The association assembled Friday morning for the last session, and after transacting the following business ad-

journed to meet in Akron the second Wednesday in June, 1887:

The President appointed the following committee on revision of the Pharmacopœia: Prof. Coblentz, of Springfield; Dr. Greve, of Cincinnati; and Mr. L. C. Hopp, of Cleveland.

On motion of Mr. Hopp, a vote of thanks was tendered the Springfield press, and the Champion people for courtesies extended to the association.

President Melville then retired and the new president, Prof. Coblentz, was escorted to the chair by Prof. Lloyd, of Cincinnati, and Mr. Heckler, of Cleveland. A vote of thanks was tendered Mr. Melville. No speeches were made, and on assuming the chair the new president announced the following standing committee for the year:

Trade Interests—C. B. Johnston, Middletown; C. W. Tobey, Troy; Charles A. Smith, Springfield.

Papers and Queries - Joseph Fell, Cleveland; H. C. Cook, Columbus; W. Simonson, Cincinnati.

Reporter on Progress of Pharmacy—S. W. McKeown, Youngstown.

Pharmacy Laws—Wm. Melville, Sandusky; John A. Nipgen, Chillicothe; Charles Huston, Columbus; F. M. Heath, White House; M. D. Fulton, Bucyrus.

He also named the following delegates to the next convention of the National Druggists' Association:

M. Ashley Lloyd, of Cincinnati; Daniel Myers, of Cleveland; G. B. Kaufman, of Columbus; E. Sachs, of Dayton, and Mr. Beardsley, of Cincinnati.

The committee appointed to nominate candidates for the State Board of Pharmacy suggested the following names to be recommended to Governor Foraker: P. H. Bruck, of Columbus; Charles Huston, of Columbus; S. W. McKeown, of Youngstown; J. H. Emerich, of Sandusky and J. H. Peck, of Cleveland.

A vote of thanks was tendered to the local secretary, Theodore Troupe, to the permanent secretary, L. C. Hopp, and to the Springfield druggists, for courtesies extended.

NEW MEMBERS.

The following is a list of the new members elected:

Alfred DeLang, Robert Groesfreund, Arthur Heinemann, Herman Koch, C. G. Lloyd, Frank G. Kullmeyer, Albert W. Schneider and Henry Wagner, Cincinnati; C. M. Ridgway, S. J. Kugna, Joseph I. Beck, Charles W. Goubel, Frank H. Coblentz, Frank E. Valentine, Springfield; M. A. Burkhardt, Dayton; Frank M. Baldwin, Blanchester; Charles E. Brewer, Lima; Otto Zickes, A.W. Bock, T. T. Forrest, C. H. Dustin, Cleveland; L. H. Wurtzbacher, H. L. Vogt, Delaware; J. M. Rees, South Charleston; J. P. Lyle, Unionport; W. H. Johnson, Middletown; E. Shellaberger, Laura; C. Tuttle, Berlin Heights; J. N. Currey, Georgetown; Frank Porter, Paulding; Augustus Warner, J. M. Lafler, W. P. Davis, R. D. Thompson, C. F. Kirkendall, J. Lamparter, G. C. Hinnelman, S. E. Allen, S. C. Inman, W. W. Alexander, Harvey Crites, E. J. Peters, C. S. Ballenger, Akron; C. S. Ellsworth, Brecksville; G. A. Lynn, Mineral Ridge; A. Q. Price, Swanton, H. F. Shull, Beaver Dam; J. C. Moore, West Mansfield; F. H. King, P. F. Sherrick, Delphos; W. D. Shotwell, Lima; S. S. McDonald, New Lexington; J. J. Hauss, St. Mary's; E. A. Collins, Wauseon; W. W. Werner, Painesville; C. E. Paine, Port Clinton; E. A. Belford, Nevada; A. Graham, Jr., Ottawa; A. B. Conkright, Richwood; X. T. Charles, S. S. Dentler, Republic; C. S. Ashbrook, Ada; D. W. Sill, West Liberty; J. P. Taylor, Mechanicsburg; H. J. Farrell, Xenia; M. U. Gackenheimer, Van Wert; J. R. Atchison, London; L. L. Kauffman, W. C. Brown, Columbus; A. Schmitt, Springfield; John Lehr, Cleveland; L. H. Flocken, Marion; Frank M. Cook, Prospect; S. H. Boyd, Wooster; J. A. Doran, Rushsylvania; J. W. Richards, M. M. Harmon, Columbus; S. W. Murray, Washington C. H.; G. F. Maxwell, West Liberty; H. H. Ihk, Letonia.

BUSINESS MENTION.

LACTART.—We invite our readers to note the advertisement of The Avery Lactate Co., on 2nd cover page. Lactart is fast approaching to first choice as a popular and paying acid beverage. Proprietors of soda fountains will do well to give it a trial.

R. E. HITCHCOCK & Co, Waterbury, Conn., one of the oldest firms in the United States in this line, manufacture a full line of paper boxes of every description, embracing plain and ornamental powder, pill and capsule boxes, cartons, powder paper, tags, envelopes, etc. Their goods successfully compete in quality and in price with all other manufactures, domestic or foreign.

THE LIEBIG Co, of 33 Murray street New York, have made an arrangement with Messrs. Gonzalez, Byass & Co, of Jerez, Spain, by which they are to receive their entire growing of Imperial Crown Sherry. This fine brand of wine is to be used exclusively in the manufacture of their Coca Wine and Coca Beef Tonic. Equal care is exercised by this company in the selection of coca leaves and in the manufacture of their Beef Extract. The Liebig Co.'s preparations are indorsed by many leading physicians of all schools, and are well and favorably known to the trade.

DREXEL'S MALT.—German Hospital, Philadelphia, June 1, 1886—Among all malt preparations that have come to my notice, Drexel's Essence of Malt is decidedly the best, and the one that is prepared in the most scientific way. F. Schwartz, Druggist in Chief, German Hospital.

THE "DEEP ROCK" SPRING WATER of Oswego, N. Y., enjoys a remarkable reputation for its unusual healing properties. The universal verdict of druggists who have sold this water is that it is unsurpassed for popularity. The Doolittle House, at Oswego, N. Y., where the springs are located, is a most attractive resort.

MESSRS. JOHN WYETH & BRO. have placed on the market a "crystallized liniment," cone with, and the other without, morphine. These "cones" of liniment are admirably adapted for local application in local headaches, neuralgia, localized rheumatic shifting pains, etc. The cone holder is of convenient size and neat appearance.

DISINFECTANTS.—The line of disinfectants prepared by W. H. H. Childs, manufacturing chemist, New York, seems to be well worthy the attention of druggists. "Carbol-crystal," a new non-poisonous compound obtained from coal tar, possesses very great antiseptic properties. It comes in different forms, liquid, powder, urinal cakes, "Carbol-crystal Sheep Dip" and "Death to Screw-worm." The two last-mentioned are especially to be commended to druggists in the stock-raising Territories. They are convenient, harmless, and economical. Another form of this substance comes in square cakes, termed Moth-wax, a much more effective moth destroyer than camphor, much cheaper, and even destructive to the potato bug. The firm make also white sublimed naphthalin and a full line of coal tar products.

SUPERIORITY MAINTAINED.—The testimony as to the value of pepsin is overwhelming. Flint says: "The principle on which it is employed, viz., to supply a deficient element to the gastric juice, entitles it to be considered as a remedy of the highest value, and experience accords it to the same position." Cummins says he has seen so many apparently hopeless cases in infants recover under its use that he never recommends a wet nurse, but relies on artificial food, the digestion of which is aided with pepsin. On the other hand, there are physicians not a few who have almost given over its use, since they are unable to attain any benefit from it. The difficulty is they have employed only the worthless imitations with which the country is flooded. To such we cordially commend Jensen's Crystal Pepsin in all cases of imperfect digestion, debility, etc. We speak from personal experience when we say that its use is most satisfactory.—Mass. Med. Journal.

The Government publicly stigmatizes pharmacists as liquor dealers in its licenses. As a remedy, it has been proposed to sell liquor on physicians' prescriptions only, and then defy the Government to exact a license. A test case, properly selected and carried to a court of ultimate resort, would thus establish a principle of more permanent value than any statute.

For Sale.—Any one desiring to secure a paying and profitable business having an established reputation, which can be largely increased by a live and competent pharmacist, will do well to correspond with advertiser. The store has been newly and artistically refitted and is arranged with a view of doing a large business easily. The location is on the most frequented street in the city, giving advantages not possessed in other localities. Satisfactory reasons given for offering above for sale. Correspondence only desired with those meaning business and have capital necessary. Address W. A. W., care THE WESTERN DRUGGIST, 69 Dearborn street, Chicago.

For Sale.—A perfect bijou of a drugstore, a bonanza to a live and enterprising druggist. Admirably located on the largest thoroughfare in Chicago. Business large and satisfactory in each department. This is an opportunity seldom offered for one desiring to make a paying investment. Address W. E. D., care WESTERN DRUGGIST, 69 Dearborn street, Chicago.

PENNSYLVANIA PHARMACEUTICAL ASSOCIATION.

Ninth Annual Meeting.

FIRST SESSION.

The ninth annual meeting of the Pennsylvania Pharmaceutical Association was held in the Court House in Lebanon, commencing on Tuesday afternoon, June 8, at three o'clock.

The meeting was called to order by President Chas. T. George, of Harrisburg.

John L. Lemberger, of Lebanon, rose, and addressing the presiding officer in fitting words, introduced Mayor Hoffer, who made an address of welcome to the society. He expressed some local pride, reminding his hearers that Lebanon Valley extends from Canada to Alabama. That Lebanon city is yet in its infancy; 150 years ago the spot was a howling wilderness. The hickory tree which marked a corner of the early boundary is still standing. In conclusion he extended a hearty welcome to each and all, and hoped they would feel at home in Lebanon.

The President replied, expressing thanks on the part of the association, and then proceeded to deliver his annual address, substantially as follows:

PRESIDENT'S ADDRESS.

Gentlemen of the Pennsylvania Pharmaceutical Association:—It gives me great pleasure to see so many present at this ninth annual meeting; a body of gentlemen, I trust, who are here not only in the pursuit of recreation and renewal of old friendships, all of which are pleasant, profitable and bind us into closer, happier union, but chiefly in pursuit of a noble aim—dear to the heart of every true pharmacist—the elevation of our noble profession. It becomes the duty of every one of us to prepare ourselves for these annual reunions, so that we may be able to give as well as take, that all may be able to impart knowledge as all are willing to receive it.

I know that the Pennsylvania Pharmaceutical Association has done much toward elevating the profession of pharmacy, but it has much more to do, and greater labors and responsibilities to overcome before pharmacy shall be respected as it ought, as it has a right to expect.

In order to make the Pennsylvania Pharmaceutical Association more powerful for good and better able to fight for the interest of pharmacy at large, it becomes your duty as members of this Association to make an earnest effort for the passage of a pharmacy law.

It is well known that since the enactment of pharmacy laws in our border States, and the agitation and discussion provoked by our own efforts, the number of drugstores has greatly increased in this State. The proprietors, evidently afraid, in many instances, to face an Examining Board, and knowing that no *ex post facto* law can be enacted to legislate any one out of business, have accordingly taken advantage of the time allotted them by the defeat of the pharmacy bill before the last legislature. Therefore let us at this meeting take up the old pharmacy bill, scrutinizing it thoroughly and candidly, and if we can change it so as to harmonize all differences of opinion, and thereby win the united confidence and efforts of all the members of this Association, I am sure we will win. * * * *

The financial condition of our Association is excellent, and requires no legislation at your hands for the present, except it be to check the expenses, if possible, for the purpose of accumulating an emergency fund.

In the past it has been the custom to send as delegates to the American Association from our Association members who were already members of the American Association. I would recommend that we hereafter appoint delegates from such of our members as are not members of the American Pharmaceutical Association; by so doing they are virtually elected members of that organization, they only being required to sign the constitution and by-laws and pay the usual membership fees and annual dues.

Under the rules adopted by the last decennial convention for the revision of the U. S. Pharmacopœia, which met at Washington in 1880, this Association will be entitled to three delegates to attend a similar convention in 1890 for the purpose of revising the present Pharmacopœia. I would therefore recommend that the president elected at this meeting shall appoint a Committee on Revision of the U. S. Pharmacopœia consisting of three members, who shall be prospective delegates to that convention, whose duty it shall be during the interim to revise carefully the present Pharmacopœia, and submit a carefully prepared report to this Association at its meeting in 1889. I do this at this time because the Pennsylvania Pharmaceutical Association was the only State Association which handed in a report on revision to the convention in 1880, and received the thanks of the convention evinced by inviting ex-President Heinitsh to a seat in the convention, and presenting an interleaved copy of the new edition to this Association. This State Association will not be the only one at the convention in 1890, and I share with you a pardonable pride in seeing Pennsylvania leading the rest of our sister States, as she has in the past. Let us, therefore, give our delegates sufficient time for a work that requires much time and application.

I hope the matter of unofficinal formulæ will not cease with the year's report, as that line of remedies is and will be on the increase, and we should be continually abreast of the times. I would therefore suggest that this subject be referred to the Committee on Papers and Queries, they to invite the sending of formulas for officinal preparations and report thereon annually.

I would also suggest that the Committee on Adulteration and Sophistication do not confine their labors alone to the subjects indicated by the title of the committee, but extend them to that of misrepresentation, in which they will find quite as large a field. We are fully aware that many elegant preparations with which the market is glutted are not as represented on their labels or circulars. I had occasion to examine emulsions of cod liver oil some time ago, which only contained one-half and in one instance only one-third the quantity of cod liver oil which it was claimed to contain. In some elixirs of quinine not one-fourth the quantity represented could be found. A physician prescribing white extract of Pinus Canadensis I ordered the same for him, and was surprised to find it very similar to "Listerine," simply a solution of boric and salicylic acids and thymol. I am satisfied that their names are legion. Exposure of this kind would not only be a great benefit to our profession, but also to the medical profession and the public.

I am not quite satisfied with our increase of membership. Whilst a very respectable body both as to numbers and intelligence, I think it should be larger. After an existence of nine years we count but a little over five hundred active members. It should be far more. The increase in membership is a curious one, as the following table will show:

Members elected in 1878. .. .	65	Members elected in 1882 88	
" " " 1879.	81	" " " 1883. 51	
" " " 1880..	64	" " " 1884. 87	
" " " 1881. 103		" " " 1885. 46	

Our largest increase was in 1880, following the meeting at Allentown, where the report of the Committee on Revision was read—an evidence that many druggists are deeply interested in the improvement in pharmacy, and avail themselves of every opportunity to obtain new formulæ. The next largest acquisition was in 1882, after the very interesting meeting of 1881 at Williamsport, at which place so many interesting papers were read, and for that reason I say we must make our meetings as interesting as possible, and put our new members into harness if it be possible to do so. In addition to this I would urge upon every member of the Association to provide himself with a certificate of membership. Out of a membership of over five hundred only two hundred and five are supplied with certificates. It will help the Association and help you, as it should be considered an honor by every one to be able to show that he is a member of this Association.

I am sorry to announce the death of three of our members during the past year. The formal announcement of their death, together with their names, will be made at the proper time by the chairman of the Executive Committee.

I would also recommend that some action be taken by this body in relation to the time of meeting, so that it does not conflict with the custom of sending delegates to the meetings of the Pharmaceutical Associations of neighboring States. No less than eleven State Associations hold their meetings this year in the first two weeks of June, and five of these on the eighth day of June, namely: Illinois, Indiana, New York, West Virginia and Pennsylvania. We not only debar our own delegates from visiting other State Associations, but prevent the delegates of other Associations from visiting us. I therefore recommend that the time of our next meeting be fixed by this Association as soon as possible, and the result, with an explanation thereof, be at once communicated by our secretary to secretaries of other State Associations adjoining our own.

I regret exceedingly that no definite action has ever been taken upon the very important subject of apprentices to the drug trade. We hear once a year a valuable paper read upon the subject by the able chairman of that committee. The report is thankfully accepted, printed, and that seems to be the last of it. Some definite action ought to be taken upon this very important subject. I therefore recommend that the Committee on Apprentices and Drug Business take the matter into further consideration, and report a plan of indenture for young men who are desirous of learning the profession of pharmacy; also as to the proper age, intellectual qualifications, time of service, duties to perform, compensation—by the latter I mean not only compensation in money, but also instruction and the use of apparatus, books and chemicals, the property of the proprietor—and time for rest and recreation, and report the same at our next meeting.

I would also call the attention of this Association to a closer observation of section 3 of the Code of Ethics in relation to the sale of liquors and wines, namely, that it should under no circumstances whatever be given upon the premises as a beverage; that it should not be dispensed in soda or mineral waters; for the same purpose it should not be sold in bottled form; nor to children; nor to men of known intemperate habits, but only as components of other medicines, or as specially prescribed by physicians, and then resist the payment of the twenty-five dollars United States license, and in this manner free yourselves from the odium of being classed as liquor dealers, and depend simply upon your inherent right to dispense whatever is prescribed by physicians.

Every member of this Association should use his influence with the members of Congress and U. S. Senators from this State for the repeal of the "Wholesale and Retail Liquor Dealers' Licenses" as applied to the drug trade, and also for a reduction of the internal revenue taxes on alcohol for manufacturing purposes, especially as applied to chemistry and pharmacy. If druggists, wholesale and retail, in every village, town or city of this commonwealth address themselves to the representatives in Congress from this State as with one impulse, I am satisfied that some good would be accomplished in that direction. Our government should be at least as liberal in this direction as the monarchies of Europe. When we quietly contemplate the enormous tax the chemists and druggists of this country pay on alcohol alone—one dollar and eighty cents per gallon—it is simply wonderful that they have quietly submitted to the wrong so many years. I therefore urge upon you the importance of writing to your members of Congress, and using your best endeavors in behalf of these recommendations.

And now, thanking you for your patience and forbearance, I hope you may be able to say at the conclusion of our labors here that it was both pleasant and profitable to be here, and that it may be spoken of as one of the best meetings held by this Association.

A committee of three was appointed to consider and report on the recommendations of the president—Messrs. Thompson, of Philadelphia; Harris, of Hamburg; and Evans, of West Chester.

A Committee on Credentials was appointed—Messrs. Turner, of Philadelphia; Kennedy, of Pottsville; and Miller, of Allegheny.

On motion, the courtesies of the society and the privileges of the floor be extended to Dr. Hoffman, of New York.

Mr. Lemberger explained that Dr. A. Knapp, of Pittston, came as a delegate from Luzerne county, but did not have credentials in regular form. On motion Dr. Knapp was admitted as a delegate.

The report of Secretary J. A. Miller was read, approved and filed.

A telegram of greeting was received from the New York Pharmaceutical Association in session at Rochester, which was duly reciprocated. Greeting was sent also to other associations then in session, viz., West Virginia, Illinois, Indiana and Kansas.

The report of the Treasurer, Jos. L. Lemberger, of Lebanon, was read, showing a membership of 489, of whom 46 were added in the past year. Balance in treasury, $234.82. He reported also the loss of certificates by fire, and recommended an order for new certificates. The report was received and referred to an auditing committee of three—Messrs. Harris, of Hamburg; Robbins, of Philadelphia; and Duble, of Williamsport

The report of the Executive Committee was read by the chairman, Jno. F. Patten, of York, giving an account of the printing of the proceedings and other work for the past year, including a biographical sketch of four members who died during the year—Joseph M. Kinney, of Allegheny; Edward T. Meyers, of Bethlehem; Wm. Smith, of York; and Jos. J. Karch, of Lebanon.

The Secretary read a number of invitations tendered to the association to visit different places of interest around the city, all of which were accepted.

Mr. Redsecker then proposed the following programme of excursions and visits:

Wednesday morning: St. Luke's and St. Mary's Churches, Lebanon Trust and Safe Deposit Bank and Vaults, Miller Organ Company, and North Lebanon Furnaces.
P. M. 3:30—Lebanon Brewing Com any.
P. M. 6:45—Colebrook Furnaces.
P. M. 8:00—Open Air Concert in Court House yard by Perseverance Band of Lebanon.
Thursday morning: Carriage ride to Hebron and Avon.
At 1:30 P. M.—Cornwall Avenue banks and Mt. Gretna.

On motion agreed to.

The Committee on Credentials reported the following delegates present:

College of Pharmacy, Philadelphia—Gustavus Pile, Alonzo Robbins, Wallace Proctor, Henry Trimble and David Jamieson, Jr.
Trade Association of Philadelphia Druggists—Wm. B. Thompson, David Jamieson, Jr., and Wm. L. Turner.
Lycoming Co., Pharmaceutical Association—S. B. Duble, Wm. Sweeney and John Metzger.
Reading Druggists' Association—John B. Raser, S. H. Stein and Albert R. Durham.
Dauphin Co., Pharmaceutical Association—Chas. L. George, J. A. Miller, and W. M. L. Wills.
Lancaster Co., Pharmaceutical Association—Thos. D. Bechtold, S. W. Heinitsh and W. D. Chandler.
National Wholesale Druggists' Association—Thos. E. Shoemaker.
N. R. D. A.—C. A. Heinitsh.
Maryland State Pharmaceutical Association—L. R. Mobley.

The committee on time and place of next annual meeting was appointed—in order to give them time for consideration—Messrs. C. M. Zinck, of Meadville; W. D. E. Hayes, of Shippensburg, and O. J. Hillegass, of Harrisburg. The

REPORT OF THE COMMITTEE ON ADULTERATION

was read by the chairman, Wm. Harris, of Hamburg.

The Committee believes that there is less of adulteration than is generally apprehended, due no doubt, in part at least, to the precautions and guards recently establish d to prevent it. Insect powder was found inert, owing it is thought, to age; sodium chlorate was sometimes adulterated with potassium chlorate; oil of birch substituted for oil of wintergreen, Spanish saffron adulterated w th marigold flowers; chloride of gold and sodium, defic ent in its costly ingredient to the extent of ten per cent.; tartar emetic contained sixty per cent. of potassium sulphate, and oil of sandalwood from the West Indies was sold as true oil of sandalwood.

On motion received for publication.

Some discussion followed, chiefly in regard to oil of birch and wintergreen.

Mr. Kline asked for information whether oil of birch is inferior to oil of wintergreen; he had been taught that they are identical.

Messrs. Knapp and Stoeckel related anecdotes of the manufacture of the oil of birch on a large scale in their neighborhood.

Prof. Maisch explained that the difference was so slight that they are practically identical; no chemical difference except a minimum of hydro-carbon in the oil of birch. (In reply to a query of Mr. Lippincott)—The chemical constituents are identical.

Mr. Coxe knew also of oil of birch being distilled in his locality (in reply to a question of Prof. Maisch) within three or four years.

Dr. Knapp knew that the birch had become a drug in the market until labeled wintergreen; then sold for $2 per pound.

Dr. Duble thought oil of birch was as expensive as oil of wintergreen. Except a slight difference in color, he thought they could not be distinguished.

Mr. Harris would not raise a question of value, but wished to have things called by their right names. He believed, however, that difference was as much as $1 per pound.

Mr. Kline did not know of a difference in price. He believed they were sold indiscriminately without examination. He believed there was very little wintergreen in the market.

Mr. Lippincott asked if there is no difference in specific gravity or solubility.

Prof. Maisch said there is not—that they are chemically identical; that a difference of color may be from different methods of distillation; that when rectified both may be colorless.

Mr. Harris still adhered to the position that it is not right to sell under a false name.

Mr. Thompson referred to the sale of oleomargarin as an illustration.

Mr. Kline fully agreed with Mr. Harris. The discussion was proper for the purpose of information.

An election held for officers for the ensuing year resulted as follows:

President—James A. Meyers, of Columbia; 1st Vice-Prest.—W. L. Turner, of Philadelphia; 2d Vice-Prest.—Wm. Harris, of Hamburg; Treasurer—Jos. L. Lemberger, of Lebanon; Secretary—J. A. Miller, of Harrisburg; Executive Committee—J. F. Patton, of York; Chas. C. Klump, of Allentown; J. H. Redsecker, of Lebanon.

Adjourned to the evening.

Second Session—Tuesday Evening.

The Association met at 8 P. M.

After the minutes of the afternoon session were read and approved, President George, as chairman of the Committee on Unofficinal Formulæ, read his report (this valuable report covered fifty pages of foolscap paper), which was received and referred for publication, and, on motion of Mr. Robbins, a copy was ordered sent to the Committee on Unoffilnal Formulæ of the American Pharmaceutical Association.

On motion of Prof. Maisch, a special vote of thanks was given to the committee for their valuable report.

Mr. Kennedy read a paper on Anatto. He spoke of its use as a butter color, and of its adulteration with red lead, turmeric, Venetian red, and other ingredients. He had examined a number of specimens and found considerable variety in strength of color, not as he believed from adulteration, but difference in locality and quality of the substance.

Some enquiries and discussion followed in regard to tests and percentage of various constituents.

The following new members were elected:

J. S. Greenawalt, Chester; E. S. Finnerty, Centralia; J. E. Williams, Shamokin; C. C. Cummings, Schuylkill Haven; B. W. Dowe, Phœnixville; H. A. Stoke, Reynoldsville; Frank N. Ferguson, Gallitzin; C. J. M'Carthy, Shenandoah; C. Stanley French, Philadelphia; Geo. N. Schools, Lebanon; Geo. R. May, Lebanon; H. A. Burkhardt; Albert E Norton, Philadelphia; Charles W. Dare, Troy; Geo. C. Beyer, Hazleton; M. A. Laurence, Watsontown; W. J Beamer, Manor Station; S. Ross Campbell, Philadelphia; W. T. Baker, Philadelphia; W. H. Reed, Norristown; Allen W. Houck, Lebanon.

On motion, the association adjourned till 9 A. M. Wednesday morning.

Third Session—Wednesday Morning.

The association met at 9:30 A. M.

Minutes of last session read by secretary and approved.

Four additional candidates for membership were elected, as follows: Samuel S. Jones, Wilkesbarre; C. F. Shoemaker, Philadelphia; Jas. C. Roller, Philadelphia; W. H. R. Smink, Shamokin.

The president introduced L. R. Mobley, of Hagerstown, a delegate from the Maryland State Pharmaceutical Association, and asked for him the courtesies and privileges of the assembly.

On motion of Prof. Maisch, the distribution of business circulars in the meeting was prohibited.

Mr. Thompson presented the report of the Committee on the President's Address, coinciding with his views, and suggesting some remedies: That a misapprehension on the part of old druggists in regard to examinations be corrected; that the place of registry be the protho notary's office; that the Committee on Adulterations should include misrepresentation and substitution; that vinous or alcoholic liquors should never be sold as a beverage, in bottles, to children, or to inebriates, and then that the U. S. tax of $25 be resisted.

On motion the report was received.

That part of the report relating to the pharmacy bill was

deferred for consideration until the Committee on Legislation should have reported. The other parts were considered seriatim.

In regard to the suggestion that delegates for the American Pharmaceutical Association be selected who are not already members of that body, Prof. Maisch observed that it may not always be practicable.

Mr. Duble suggested, if possible, and on motion, it was so modified that part of the number be non-members.

On motion, it was agreed that three delegates be appointed by the president elect to attend the decennial convention for the revision of the U S. Pharmacopœia, to be held at Washington, D. C., in 1890.

In regard to increase of membership, Mr. Kline proposed a committee to be represented in each county and important town. He thought a large increase of membership could be effected by individual effort.

Mr. Miller, of Allegheny, did not favor the project; regarded the labors of a committee as futile.

Mr. Sweeley agreed with the last speaker, and gave reasons why some refused to become members—carelessness or cupidity.

Mr. Stoeckel thought that experience was against the appointment of a committee.

Prof. Stevens favored the motion. He believed that much could be done by individual effort.

Mr. Finnerty also favored the motion.

Mr. Hillegass recalled his own experience as a member of the committee. People are too ready to believe that those trying to obtain members have a personal interest—a percentage or bonus.

Mr. Kline gave reasons for wishing a larger representation, among others, to support the pharmacy bill. He believed that the suggestion of the president to give more work to new members would have good results.

Mr. Kennedy was less anxious for a rapid increase in number. Better 500 good, efficient, active members than twice the number careless, indifferent, or worse. A common error which ought to be corrected is that graduates only can join the association. Don't attempt to drag in members. Quality rather than quantity should prevail.

The motion to appoint one member from each county and important town was then put and carried.

Dr. Wells objected to taking out certificates at an expense of $3, especially as a member resigning is required to return his certificate.

Mr. Sweeley thought it ought to be peremptory.

Mr. Kline had one objection. He believed that it would check accessions and reduce the membership.

In regard to outstanding dues, Mr. Meyers assured the meeting that all dues in the past two years have been paid promptly.

In regard to the liquor license and tax, Mr. Harris said that the society may resist it, but it will be useless. They will be opposed by the liquor dealers, and for a different reason by temperance men; by low-tariff men because the money is needed to pay pensions, and by high-tariff men on the score of consistency. There are so-called druggists who make a living by the sale of liquors. While these are recognized as druggists there is no hope for repeal of the license.

Mr. Duble arose to a point of order, that there being much business yet on hand, discussion should be confined to legitimate business.

Mr. Sweeley offered a resolution that a copy of the report read by Mr. George on unofficinal formulæ be furnished to Dr. Hoffman, of New York, for publication in his journal, on condition that the report be printed in pamphlet form and a copy furnished to each member of the Pennsylvania Pharmaceutical Association.

Dr. Brallier spoke in favor of the resolution.

Dr. Hoffman remarked that a report showing so much labor and research deserved to be made known as widely as possible, and he would be glad to give it publication.

The report of the Committee on Legislation was read by Mr. Redsecker. Some changes were proposed in the pharmacy bill, as suggested in reply to circulars.

Change the first section so that all having qualified assistants may have a drugstore. Change in the second section, that the State pay nothing and make the salary of a secretary $100. Change ten years' experience in the third section to five. Reduce registration fee from $5 and $2.50 to $2 and $1. In section four, after the words "State of Pennsylvania" to add "and to the Pennsylvania Pharmaceutical Association." In section seven to strike out all after the word "who" in second line to the end of sixth line. To omit registration in sale of poisons. To add that persons giving advice but not visiting need not register. To strike out the objectionable phrase in regard to examinations. To omit the eleventh line in section eleven. That registered pharmacists be exempted from jury service. The committee report an expense of $57.88, which, on motion, was ordered to be paid.

Mr. Kennedy asked the reason for changing from ten to five years' experience.

Mr. Redsecker: To place all on a nearly equal footing. That strangers coming with a license may not have an advantage over residents.

Mr. Duble thought the words, "and to the Pennsylvania Pharmaceutical Association," may arouse opposition. He wished to hear the reason.

Mr. Redsecker: To control moneys.

Mr. Turner opposed it as unsuitable. He feared that it might jeopardize the bill, and might influence legislation adversely under the impression that it was a job.

Mr. Coxe thought the same thing might be obtained through courtesy.

Mr. Harris regarded it as brazen, and moved that the phrase be stricken out, which was agreed to.

It was agreed to modify the seventh section so as to avoid any possible inference that all who are not graduates must be examined.

Mr. Pile called attention to the meaning of the phrase, "qualified assistant."

Mr. Turner thought it should be determined by the Board.

Prof. Maisch said the words have a technical sense in Philadelphia.

In the discussion in regard to poison registration, Mr. Thompson asked whence the opposition.

Mr. Redsecker: In rural districts country druggists often find it difficult, for many reasons, to get signatures.

Mr. Thompson considered it a safeguard useful in criminal trials. The poison label may be detached. Without it, the druggist endangers his reputation. The law sustains the seller. Little prejudices should be set aside for a great end.

Mr. Durham could not see much good in registering. More costly and deadly poisons were less sought after than common ones. Insecticides, arsenic, Paris green and rough-on-rats were used by suicides, being cheap and effective.

Mr. Kline objected to registry. Its only result would be to transfer the sales of these common poisons from the druggist to the hardware dealer. Registry is ineffective. The messenger may be a child; the purchaser can give a false name. If it were not that Mr. Durham objected, he would have believed the opinion universal.

Mr. Durham neither favored nor opposed. He disliked the whole section. He could evolve nothing better, but it was self-contradictory and abominable.

Mr. Kline was glad he could retain the word, "Universal."

Messrs. Sweeley and Heinitsch favored registration.

The suggestion of the committee was allowed to stand and the report, as amended, adopted as a whole.

On motion, the committee was authorized to make such changes in the law as may be necessary to secure its passage.

On motion, the chairman of the committee was allowed to draw on the treasurer for an amount not to exceed $200, for expenses of the committee.

On motion, the committee is required to collect the laws relating to the sale of drugs and medicines, and all laws affecting the drug business, and report to the secretary for insertion in the next volume of the proceedings.

The report of the Committee on Apprentices was read by Mr. Thompson. There are no general rules on the subject. The age is making some improvement. One drawback is the use of ready-made preparations, and consequently, less experience in the laboratory. There is a need of some law to regulate the selection The Philadelphia College of Pharmacy has appointed a Committee of Examiners in English branches, entirely voluntary, but those passing satisfactorily will be preferred in making selections. The New Jersey association gives preference to those holding diplomas or certificates It would be well, also, to have a fixed money value for the instruction of apprentices in different departments.

Mr. Heinitsch reported a delightful excursion with the Maryland association while in attendance as delegate at its late annual meeting at Annapolis

The association adjourned till 1:30 P. M.

Fourth Session—Wednesday, 2 P. M.

After the minutes of the morning session were read and approved, Prof. Maisch read a paper on "The Yield of Extract of Nux Vomica." He called attention to an error in the report of last year, where he is made to say that you cannot extract 25 per cent. *without* strong alcohol, instead of *with* strong alcohol. The percentage with strong alcohol seldom exceeds 10 per cent. With weaker alcohol the percentage is increased, while with boiling water it may be as high as 22 per cent. In Europe, where maceration and digestion are used, the percentage is lower than with us.

Mr. Thompson spoke of three varieties of nux vomica, one of which seldom reaches this country, and asked which is best.

Prof. Maisch: All three varieties can be obtained—one with more difficulty. They differ mainly in purity, in being free from extraneous matter. The lighter colored is the better, and those having rounded edges.

Mr. Stoeckel read a paper on "The Drugs Gathered in Pennsylvania." He gave quite an extensive list, a few of which were tobacco, ginseng, burdock, elecampane, birch, sweet marjoram, calamus, wild cherry, chamomile, slippery elm, golden rod, hops, serpentaria, bitter sweet, ergot, peppermint, tansy, horse chestnut, horehound, black and blue cohosh, prickly ash, savin, juniper, liverwort, snake root, dandelion, pennyroyal, stramonium, lobelia, sumac, mullein, catnip, poke, laurel, wormwood, belladonna, blood root, pipsissewa, digitalis, angelica, saffron, gentian, polypodium, Indian turnip, etc.

Prof. Maisch asked what were the medicinal properties of horse chestnut.

Mr. Pile: It was used in whooping cough.

Prof. Maisch had heard peach leaves recommended.

Mr. Thompson had heard of a horse chestnut being carried in the pocket for rheumatism.

Mr. Kline thought that one product of Berks had been forgotten. His friend Harris, of Hamburg, must have been absent-minded, or he would have noticed the omission—Democrats.

Mr. Harris replied: The omission was proper. A Democrat has been elected President. We would forgive Mr. Kline and shake hands across the bloody chasm. Democrats are very good at election times, but they are not recognized in the U. S. Pharmacopœia.

Mr. Heinitsch read a paper on "Camphor Cerate." The officinal preparation contains less than one-half per cent. of camphor. Would not a 10 per cent. preparation be preferable? Its chief use is for making cerate of subacetate of lead. The percentage of camphor it contains is so small as to be practically valueless. It might be dropped entirely without loss. A cerate containing 10 or even 30 per cent. of camphor is prescribed in some sections as an anodyne and for itch.

Mr. Heinitsch also read a paper on "Oil of Camphor and its Uses"—a volatile essential oil, stimulant and anodyne, used for a long time by the Chinese; used also in the manufacture of celluloid, and in making the finer artists' paints, as a substitute for turpentine. It is adulterated with sassafras and other oils. Detection is difficult, except by redistillation.

Mr. Harris read the report of the Auditing Committee opposing the treasurer's account. On motion, the report was received and the committee discharged.

Mr. Turner read a paper on an "American System of Weights and Measures for American Pharmacy." He pointed out defects of the system now used; gave a sketch of the metric system, its origin and the unit on which it is based; found some objection to the names, and proposed a slight modification to adapt it to our use; would substitute weight for gram; make 15 grains equal one weight, 500 weights equal one ounce.

Mr. J. W. Miller read a paper in regard to "Goods Sold on Commission." How long should they be retained, if not called for? He quoted the law on the subject, showing that, with due notice given, they may be sold at the end of ninety days. He believed, however, that it is better not to sell at all on commission; to purchase according to demand of trade.

Mr. Emanuel read a paper, "How to make membership in the State Pharmaceutical Association a desirable necessity for every pharmacist." First, make it pay. The society is doing much good, but may be improved, made more practical—less purely scientific. It should meet the wants of tradesmen. Instead of proprietary medicines he would suggest non-secret preparations, and aid each other by consultation and discussion; then furnish their own preparation instead of the patented. No injustice to any, as instanced in cundurango.

On motion of Mr. Lemberger, the courtesies and privileges of the society were extended to all physicians attending the meetings.

A paper furnished by Mr. Ridpath on the question, "How can country pharmacists induce physicians to prescribe, instead of compounding?" was read by Mr. Thompson. He knew of no remedy. He would offer a few suggestions: To make improvements on the unsightly, ill-planned and sometimes incompatible compounds of the physician; subscribe for pharmaceutical journals, and practice making up scientifically new formulas as they appear. Physicians can be gradually taught that their time may be better employed than in compounding medicines.

Mr. Kline read a paper answering the question, "Does it pay to become members of the Pennsylvania Pharmaceutical Association?" In union there is strength. From our national confederation down to the lowest manual labor, we have organizations and unions. That these are sometimes used injuriously is no argument against their necessity. It may be difficult to show in dollars and cents what it pays. It certainly gives better standing in commercial relations, and it is needed in the rivalry and competition with which we are beset. The society should aim to make the answer affirmative.

Mr. Stevens read a paper on "Officinal drugs and preparations for which there has been little or no demand." He had sent out a large number of circulars of inquiry. Some of the answers were not reliable. Some named alcohol and lime water; another said: "We have no use for tobacco, but sell lots of cigars." The largest number seemed to be among the extracts, tinctures, oils, syrups, ointments and plasters. Some amusing letters were quoted, one in reference to Mr. Stevens' name. Mr. Turner had furnished him a tabulated statement of drugs used in 1,000 prescriptions.

Prof. Trimble furnished a paper on "Commercial, Citric and Tartaric Acids. How do they meet the tests of the Pharmacopœia?" He had tested six samples of tartaric acid—one of them foreign—two in crystals. He found them practically pure, though not quite up to the standard of the Pharmacopœia. He found very little lead, little more than a trace of sulphuric acid. He examined three samples of citric acid with nearly the same results. As citric acid is usually sold in crystals the opportunities of adulteration are diminished.

Mr. Phreaner read a paper on "Means to obtain better apprentices." He would raise the standard of admission in moral and mental qualifications. He knew from his own observation that the supply is more than equal to the demand. Pay better wages and select the best material. Many are allured to the profession by glitter, in the charms of city life. Discard such altogether. He recommends a supervising board to regulate admissions.

Mr. Duble read a paper on "The cheaper petroleum ointments as compared with the original and more expensive ones" He had examined four samples, two of the finer and two of the common, by the usual tests—which showed that the cheaper compared favorably with the others. In the expensive preparation of this substance from waste products there may be danger of impurities in future—the most probable is resinous or bituminous matter from the waste, if carelessly manipulated.

Mr. Lemberger announced a band concert for the evening. The Secretary read a telegram from the Indiana Pharmaceutical Association, now in session, sending greetings.

A paper on the "Prevention of crystallization of honey" was read by Mr. Ridpath. He thought the best means was to add 5 per cent. of glycerin. He had heard boric and formic acid recommended, but had not tried either. Honey does not crystalize in the cells, unless the bees have been fed on sugar. He had tried a number of experiments to prevent crystallization without adding anything, but had reached no conclusion.

A paper furnished by Mr. Lochman on "Testing the purity of natural beeswax" was read by Mr. Turner. Resin can be detected by SO_3. Fatty substances by the odor of acreolein when burned. Purity may be tested by boiling in alcohol. Ceresin and paraffin may be detected by lower specific gravity, also by soapy feel and appearance when cut. Pure wax is entirely soluble in chloroform if slightly warmed.

Prof. Maisch, too, observed that paraffin may be detected by melting and allowing to cool. If pure the surface will be level and uniform, if not, wavy and variegated.

Mr. Pile said there is also a noticeable difference in color

Mr. J. W. Miller read a paper on "The appreciation and reward of pharmacists for their efforts to elevate their profession and benefit physicians and the public." He believed that so far as efforts had been made, they were appreciated. Fair dealing pays in the long run. The grasping and penurious fall oftener than the honest. He regretted a want of proper feeling between pharmacist and physician. As in the fable, each has his different talent and duty. Let him only fill the station assigned to him well. Few can be a Remington or Maisch. None have reached the highest round of the ladder.

Mr. Lippincott read a paper on "Explosives and Spontaneous Combustion." He gave an extended list of substances (1) which explode when triturated singly: Chlorate of potassa; the different fulminates—mercury, copper, antimony, gold and silver, mercury nitric oxide, nitroglycerine, hydrogen chloride and iodide, nitrogen chloride. 2. He gave forty substances that explode in connection with others, mainly chlorate and permanganate of potash; with a number of mixtures and solutions that take fire spontaneously; some instantly, others more slowly.

Mr. Hillegass, from the Committee on Time and Place of next Meeting, reported that the committee had fixed on Cresson Springs as the place for the next annual meeting. Consideration was deferred.

Mr. Thompson spoke favorably of papers read, and moved that the last paper be read by title, printed, and a copy be sent to each pharmacist in the State, which was agreed to.

Thos. B. Bechtold, of Lancaster, was elected a member of the association.

Mr. Kline moved that his own motion for appointment of a committee on members be reconsidered. Agreed to.

Mr. Kline then moved that a committee of five be appointed to present an appeal for membership to all druggists in the State not members of the association, which was agreed to, with power to draw on the treasurer for expenses.

Two candidates were proposed for honorary membership: Dr. Fredk. Hoffman, of New York, and Mr. Jos Roberts, of Baltimore.

Mr. Evans read report of delegates to American Pharmaceutical Association at Baltimore.

Mr. Patton read report of delegates to the New York State Pharmaceutical Association at Saratoga.

Mr. Turner proposed an amendment to the by-laws, Chapter 2, Article 6, that the words, "until he has surrendered his certificate" be stricken out.

On motion, adjourned.

Fifth Session—Wednesday Evening.

From 8 to 9 there was a concert by the Perseverance Band indoors, on account of rain, for the entertainment of the association.

Mr. Harris complimented the band on the excellence of the entertainment, and thanked them in behalf of the association.

Prof. Graeff, the conductor of the band, replied with becoming modesty, hoping that they might deserve a part of the encomium.

Mr. George read a paper on the formation of oleates in the preparation of officinal ointments. From a series of carefully conducted experiments, he is led to believe that oleates are formed when the ointments containing metal or metallic oxides are made with lard or simple cerates, but not if petroleum compounds are used. He would recommend that in the preparation of all ointments containing metals or their oxides, vegetable extracts or powders, lard or tallow shall be used. Petrolatum should be used only for the purpose of protecting an abraded, hacked or chapped surface. He proposed to pursue the subject farther.

Prof. Maisch did not wish to rise so of en, but thought there should be free discussion. He believed that the fat was generally regarded only as a vehicle. Saponification occurs in some ointments. He suggested the use of lanolin.

Mr. George said he had been experimenting with lanolin, but had not reached a conclusion.

A member asked what objection there was to glycerite of starch.

Mr. George—It is useful in some cases, but it is not readily absorbed.

A paper on the practical value of botanical knowledge to the pharmacist, by Mr. Cisin, was read by Mr. Stevens. The sources of food, shelter and medicine should be interesting to all. A practical knowledge of botany was more necessary to the pharmacist than to the physician. It is an aid in his chemical researches, and it has a money value in selecting vegetable material.

Prof. Maisch, as an illustration, called attention to a specimen of saffron he chanced to have with him. He said that Spanish saffron is seldom pure, not adulterated, but contains inert matter, filaments and parts of the plant of no medicinal value.

Mr. Patton read a paper on "The need of a Pharmacists' Mutual Fire or Life Insurance Co." Insurance companies discriminate unjustly against drugstores, considering them extra hazardous. He believes that if all druggists would take proper care to make their store and its surroundings as free from danger as possible, that a mutual company may be organized at a saving of expense.

The report of the Committee on Papers and Queries was read by Mr Robbins. The list of queries had been sent out in July. Out of fifty queries, thirty-eight were accepted. Twenty-two papers are presented at the present session, one of them volunteer.

Mr. Robbins asked to be relieved from his place on the committee.

Prof. Maisch regretted his withdrawal, thanked him personally, and moved that a vote of thanks be tendered.

The President expressed his high estimation of Mr. Robbins' labors, and wished that the association may be as fortunate in securing a successor.

Mr. Stevens, in the same strain, spoke of Mr. Robbins' happy faculty in formulating queries.

Mr. Duble regretted the loss of the chairman, but hoped Mr. Robbins would remain on the committee.

Mr. Robbins returned thanks for the flattering notices. He hoped that he would be excused from the committee, observing modestly that it was only a matter of a little work.

Mr. Stevens: Not work only—there must be brain.

The report of the Committee on Time and Place came up for consideration.

Mr. Stevens objected to Cresson; a single hotel on a bare mountain top All right for routine business but no place for recreation for the ladies.

Mr. Coxe: There are swings. He sugges s Titusville.

Mr. Hayes, one of the committee, could give reasons for their choice if desired.

Mr. Lemberger would be glad to hear the reasons that determined the committee.

Mr. Hillegass: Mountain scenery; no breweries, it must be admitted, but nature.

Prof. Maisch objected to the character of arguments advanced. Amusement was a secondary consideration. The first object is the benefit of the association. They had met near Cresson before. They should change for local benefit. Cresson will furnish few accessories.

Mr. J. W. Miller hoped there would be no sectional feeling. They were all Pennsylvanians.

Mr. Sweeley concurred in the objection of Prof. Maisch. The interests of the society should be the chief concern.

Mr. Hayes would prefer an attractive place. He was willing to go to Titusville.

Mr. Sweeley named Emporium, and gave reasons in favor of the place.

Mr. Stoeckel moved that the report of the committee be amended so as to read Philadelphia instead of Cresson, which was carried by a vote of 22 to 19.

Prof. Maisch proposed the second Tuesday in June, 1887, as the time for the next meeting, which was agreed after more discussion.

On motion of Mr. Thompson, the disposition of Mr. Lippincott's paper was reconsidered, and it was referred to the Executive Committee for publication.

Mr. H. Evans and Milford S. Goodyear were elected members, and Dr Hoffman and Mr. Roberts were elected honorary members.

Mr. Duble offered a resolution that the secretary be instructed to collate the resolutions governing the association, now scattered throughout the minutes, and have them printed.

On motion, the amendment to the by-laws, striking out the words "until he has surrendered his certificate," was adopted, and the association, on motion, adjourned to 8.30 A. M. Thursday morning.

Sixth Session—Thursday Morning.

The association met at 9 A. M.

Mr. Sweeley read report on the Lycoming Pharmaceutical Association, giving a favorable account of its condition and progress.

The secretary re d a report on the Lancaster County Pharmaceutical Association, now in its fifth year; monthly meetings; thirty members—two added within the year.

Mr. Duble gave a flattering account of the exhibit in Fisher s Hall, with a list of exhibitors and their products

The circular of the National Retail Druggists' Association, suggesting a new plan for reorganization with delegates from the different State associations, and asking the indorsement of this association, was read by the secretary and, on motion, laid on the table.

Mr. Evans reported from the National Retail Druggists' Association an interesting meeting and full attendance, prospects bright.

The committee for last year on entertainments, reported that the excursion on Lake Erie and banquet had cost $170.35, and there was a deficiency of $16 85. On motion the report was received, and the expenses incurred were ordered paid.

Mr. Shoemaker presented a resolution indorsing the efforts of the National Wholesale Druggists' Association to bring about a repeal of the internal revenue tax on alcohol, and the law requiring retail druggists to take out a retail liquor license. On motion, adopted.

Mr. Harris offered a resolution that the thanks of the Association be tendered to the local druggists, the mayor and authorities, and to the people of Lebanon generally for courtesies and privileges, and for the use of the courthouse.

Prof. Maisch called attention to the paper read by Mr. Turner, on a uniform system of weights and measures. He noticed that the German government have adopted a modified form of the metric system, and thought the Association might do something looking toward a similar change in this country.

No action was taken, and the meeting proceeded to installation of officers.

The President appointed Messrs. Thompson and Robbins to present president elect Meyers. Then expressing in a few words, the fitness of the new President for his position, and invoking for him the same generous support that had been extended to himself, he resigned his place to Mr. Meyers.

Mr. Meyers appreciated the honor conferred on him. He would try to deserve it, and modestly asked forbearance. He thanked the retiring president and the assembly.

The President appointed Messrs. Duble and J. W. Miller to introduce the first Vice-President, W. L. Turner.

Mr. Duble in presenting him said that an introduction was superfluous, but regular.

The President added kindly words.

Mr. Turner returned thanks for the past, and hopes for the future.

Messrs. Heinitsch and Stein were appointed to introduce the second Vice-President, Wm. Harris.

The President, in his eulogy, remarked that Mr. Harris would take care of the ladies.

Mr. Harris appreciated the honor in the present and future. It is a stepping stone to something better. In the great State where he lives (Berks) it is a law to serve when required. He accepts with thanks, and hopes they will never have cause to regret their selection. He has the honor of being introduced by Mr. Heinitsch, the first Vice-President of the Association. It is well for Berks and Lancaster to stand side by side, and he wishes to shake hands across the bloody chasm (shakes hands with Mr. Heinitsh).

Mr. Patton being introduced, said " Some are very great, some achieve greatness, and some have greatness thrust upon them I accept the office, hoping to be relieved next year."

Mr. Kline had the Secretary read a notice of the meeting in the Press, in which there was a glaring misstatement in regard to the pharmacy bill—and moved that a dispatch be sent to have it corrected.

Prof. Maisch thought it unnecessary and a waste of time. Other papers may have the same error. All should be treated alike.

Mr. Cox said life is too short for such a course.

Mr. Lemberger explained that the news had been furnished by a special press agent, that other papers had the same item. Better treat it with silent contempt.

The President announced the following committees and delegates for the ensuing year.

COMMITTEE ON LEGISLATION AND TRADE INTERESTS.

J. H. Redsecker, Lebanon; M. N. Kline, Philadelphia; A. C. Robertson, Pittsburg; E. B. Cochran, Lancaster; Wm. Harris, Hamburg; Robert Howerth, Jr., Chester; Geo. W. Kennedy, Pottsville; J. B. Duble, Williamsport; J. C. Mackintosh, Erie.

ON ADULTERATIONS AND DETERIORATIONS.

Wm. H. McGarreh, Scranton; Jos. S. Evans, West Chester; Chas. D. Lippincott, Titusville.

ON FORMATION OF COUNTY SOCIETIES.

S. W. W. Schaffle, Lewisburg; H. B. Parry, Lancaster; C. F. Randolph, Altoona; J. M. George, Phillipsburg; Horace Smith, York.

ON EXHIBITS.

J. B. Duble, Williamsport; C. W. Hancock, Philadelphia; J. H. Stine, Reading.

ON APPRENTICES.

W. B. Thompson, Philadelphia; C. A. Heinitsch, Lancaster; J. B. Duble Williamsport; R. M. Krauser, Milton; N. J. Hendershott, Bloomsburg.

ON REVISION OF PHARMACOPŒIA.

Chas. T. George, Harrisburg; Wallace Proctor, Philadelphia; Louis Emanuel, Pittsburg.

DELEGATES TO AMERICAN PHARMACEUTICAL ASSOCIATION.

C. T. George, Harrisburg; J. H. Redsecker, Lebanon; J. W. Miller, Mt. Pleasant; Jas. A. Dale, York; Chas. D. Lippincott, Titusville.

DELEGATES TO NEW JERSEY STATE PHARMACEUTICAL ASSOCIATION.

E. M. Boring, Philadelphia; Edward Jones, Philadelphia; G. W. Stoeckel, Reading.

DELEGATES TO MARYLAND STATE PHARMACEUTICAL ASSOCIATION.

Charles H. Cressler, Chambersburg; W. D. E. Hayes, Shippensburg; John W. Rewalt, Middletown.

DELEGATES TO OHIO STATE PHARMACEUTICAL ASSOCIATION.

A. Armor, Alleghany; C. M. Zinck, Meadville; J. E. Mackintosh, Erie.

DELEGATES TO NEW YORK STATE PHARMACEUTICAL ASSOCIATION.

Howard Pursell, Bristol; J. H. Stine, Reading; Geo. R. Ross, Lebanon.

After some discussion in regard to committees, Mr. Harris called attention to the fact that a lady member was present, Miss Dr. Susan Hayhurst, of Philadelphia, the first lady who joined the association, and the first lady graduate of the Philadelphia College of Pharmacy. The fact was duly honored, and the president observed that Mr. Harris was still on the side of the ladies.

Mr. Lemberger then announced that a photographer was in the yard below ready to take a picture of the members.

On motion, adjourned at 10:30 A. M., to meet in Philadelphia on the second Tuesday of June, 1887.

The remainder of the forenoon was pleasantly spent in visiting places of interest in the city, and at 1:30 P. M. the members with their friends and ladies went on a special excursion and picnic to the Cornwall Iron Mountain and the picnic grounds at Mt. Gretna.

The Commercial Exhibit.

The Committee on Exhibits expressed pleasure that by far the best exhibit ever made at any of the meetings was provided for the inspection and interest of members at the present meeting. Fisher's Hall, a large and well adapted room for the purpose, was tastefully arranged, and the various pharmaceutical products, laboratory appliances, apparatus, etc., were shown to the best advantage. Much credit is due to the local committee for this very successful and satisfactory exhibit. We herewith append a list of the exhibitors and a brief mention of the principal articles exhibited:

An entirely novel display, and at the same time one of great interest to pharmacists, was that of BULLOCK & CRENSHAW. This firm show a full line of chemical and pharmaceutical apparatus, accurately graduated burettes, pipettes and vessels for volumetric analysis, four different styles for constant extraction by volatile menstruum; still and worms, from copper to the delicate glass spiral; heating appliances of different varieties, porcelain from the royal Berlin factory, and glass from Bohemia

WHITALL, TATUM & Co. exhibited a large line of glassware for druggists' use, including a fine line of prescription ware, shop furniture, graduates, and a display of articles devoted to the decoration of stores and windows.

LEHN & FINK'S exhibit consists of a special line of crude drugs, essential oils, rare chemicals and alkaloids. A case containing eighty-eight specimens of rare alkaloids has proved an object of interest. Vanillin, coumarin and heliotropin, new synthetical preparations, naturally attract special attention. This firm deserve credit for their very interesting and valuable exhibit.

WM. R. WARNER & Co. make a display of their sugar-coated pills, granules, parvules, fluid extracts, elixirs, etc.

CLIFFORD & Co. show a very handsome line of sponges.

PARKE, DAVIS & Co. exhibit crude drugs and a line of pharmaceutical products.

LAZELL, DALLEY & Co. exhibit a full line of perfumes.

MESSRS. SMITH, KLINE & Co., a display of pharmaceutical preparations, and ground and powdered drugs.

GILLAM'S SONS, printed gummed cork tops, embossed drug envelopes, labeled pill and powder boxes.

SEABURY & JOHNSON have medicinal and surgical plasters.

JOHN WYETH & BRO. make their usual fine display of pharmaceutical specialties.

HANCE BROS. & WHITE, fluid extracts, pills, elixirs, etc.

WM. H. BROWN & BRO., a full line of handkerchief extracts, sachet powders, etc.

HENRY K. WAMPOLE & Co., a fine display of pharmaceutical specialties.

MCKESSON & ROBBINS, oleates, fluid extracts, fruit juices and gelatin coated pills.

ROBT. SHOEMAKER & Co., pharmaceutical preparations, cod liver oil and ground spices.

TURNER & WAYNE exhibit the patent Metzger bottle filler.

Members present at the nin'h annual meeting of the Penn. Pharmaceutical Association:

John F. Patton,
Charles T. George,
J. A. Miller,
W. L. Turner,
S. W. Heinitsch,
David Jamison,
Gustavus Pile,
A. Knapp,
Jos. S. Evans,
Geo. W. Kennedy,
J. N. Hodson,
John W. Miller,
Alonzo Robbins,
Milton S. Falck,
J. H. Redsecker,
Albert R. Durham,
J. Sutton,
H. N. Coxe,
D. Horn, Jr.,
Robt. Howerth, Jr.,
J. B. Duble,
Geo. W. Stoeckel,
Charles C. Klump,
Wm. B. Thompson,
Wm. Sweeley,
Horace Smith,
W. D. E. Hayse,
S. W. W. Schaffe,
J. A. Meyers,
O. J. Hillegass,
Henry Trimble,
M. N. Kline,
J. L. Brallier,
J. H. Stein,
B. M. Eby,
D. M. Krauser,
John M. Maisch,
Jos. L. Lemberger,
W. S. Seabold,
John H. Hahn,
F. M. Bouton,
Charles Woods,
Charles D. Lippincott,
C. M. Zink,
J. M. Cunningham,
W. H. McGarreh,
S. Henry Stevens,
Edw. C. Jones,
S. Ross Campbell,
George C. Boyer,
E. J. Finnerty,
Wm. R. Roetdel,
Geo. R. Ross,
Frank A. Methes,
C. A. Heinitsch,
H. Pursell,
Geo. H. Bender,
James A. Dale,
Frank V. Ferguson,
J. M. George,
Daniel Phreaner,
Wm. Harris,
W. H. Reed,
S. Hayhurst,
R. S. Ross,
W. M. L. Wells,
H. B. Parry,
J. R. Kauffman,
T. A. Thorley,
D. M. Seever,
Samuel S. Jones,
Allen W. Hauck,
Aquila Nebeker,
John B. Raser,
Wm. Weis,
T. E. Shoemaker,
Geo. A. Gorgas,
G. B. Armstrong,
F. B. Davis,
C. D. Christman,
Wm. Baur,
C. J. Houch,
Jay H. Bober,
James Prichard,
J. W. Rewelt,
C. Stanley French,
J. B. Bechtold,
Geo. R. May,
Geo. W. Schools,
James C. Roller,
Wm. H. Egle,
F. H. E. Gleim
J. B. Metzgar
Will R. Ross.

NEW MEMBERS.

Walter T. Baker, Philadelphia,
Wm. J. Beamer, Manor Station,
Thomas B. Bechtold, Lancaster,
Geo. C. Boyer, Hazleton,
H. A. Burkhart, Bethlehem,
S. Ross Campbell, Philadelphia,
C. Sam'l Commings, Schuylkill Haven,
Chas. W. Dare, Troy,
B. N. Dows, Philadelphia,
Wm. H. Evans, Pottstown,
Frank W. Ferguson, Gallitzin,
Edw. J. Finnerty, Jr. Centralia,
C. Stanley French, Philadelphia,
Milphred S. Goodyear, Harrisburg,
Jonathan S. Greenawald, Chester,
Allen W. Hauck, Lebanon,
Sam'l S. Jones, Wilkes Barre,
M. A. Lawrence, Watsontown,
Geo. R. May, Lebanon,
C. J. M. Carthy, Shenandoah,
Albert E. Norton, M. D., Philadelphia,
Willoughby H. Reed, Norristown,
Jas. C. Roller, Philadelphia,
Geo. W. Schools, Lebanon,
C. F. Shoemaker, Philadelphia,
N. H. R. Smink, Shamokin,
H. Alex. Stoke, Reynoldsville,
John Evans Williams, Shamokin,
R. J. Williams, Ashland.

MESSRS. GEO. SCHAFER & Co., Ft. Madison, Ia., have won a substantial reputation for their pharmaceuticals throughout Iowa and adjacent States. The senior member of the firm would seem to be sufficiently employed in legislative and commission of Pharmacy work, to which he has given much of his time during the past five years at much personal sacrifice, but now that affairs in Iowa have become comparatively settled, the interests of his business will doubtless receive his chief energy. The motto of the firm, "Right goods at right prices," expresses the conscientious policy of the firm. Ft. Madison is one of the best railway centers in Iowa, and affords advantages of which Messrs. Schafer have not failed to avail themselves.

BUSINESS POINTS.

The management of the WESTERN DRUGGIST cheerfully shares the credit of this edition with the following firms, representative in their respective lines, whose advertisements grace these pages, and whose announcements merit careful perusal:

AVERY LACTATE Co.—The delicious summer drink "Lactart" (page 2).

N. K. BROWN, Burlington, Vt., maker of the celebrated "Brown's Jamaica Ginger," (page 26).

GEO. BOHNER & Co., Chicago, jobber of lamps, glassware, etc.—a line of goods peculiarly adapted to a general druggists' stock, (page 25.)

JOHN BARRY, New York, illustrates the physician's favorite—Barry's clinical thermometer, (page 23).

HENRY BIROTH, Chicago, manufacturer of pharmaceuticals of superior quality, (page 1).

LEO BERNARD & Co., New York, importers of essential oils. (p. 12.)

CLEVELAND PETROLATUM Co., call attention to their well-known brand of petrolatum—"Densoline," (page 17).

W. H. H. CHILDS announces a reliable line of disinfectants. (p. 13.)

COFFIN & WOOD CHEM. Co., Detroit, —an excellent quality of menthol, (page 26).

F. E. CLAPP & Co., Boston.—Absorbent cotton, etc., (page 29).

J. W. COLCORD, Boston,—"Colcord's Bottle Top," (page 14).

CHAS. COOPER & Co, Manufacturing Chemists, New York, (p. 23).

COFFIN, DEVOE & Co., Paints, oils, artists' materials, etc., Chicago, (page 22).

CHICAGO DRUG AND CHEM. Co, wholesale druggists, Chicago, (p 16.)

H. D. CUSHMAN, Three Rivers, Mich., "Cushman's Menthol Inhaler," (page 18).

B. DOOLITTLE, "Oswego Deep Rock Springs," Oswego, N. Y. (p. 23).

DANGLER STOVE M'F'G. Co., Cleveland and Chicago, describe the useful "Dangler Laboratory Lamp," (page 29).

H. B. DREXEL & Co., Phila., "Drexel's Extract of Malt," (p. 10).

DUNDAS, DICK & Co., New York, the popular "Mentholine," (p. 32).

EISNER & MENDELSOHN Co., Philadelphia. Johan Hoff's Malt Extract, (page 35).

ELECTRO MEDICAL BATTERY Co., Kalamazoo, Mich., the justly popular "American Pocket Battery." (page 25).

EMERSON M'F'G Co., New York, Albuminoid Food, (page 11).

FULLER & FULLER, wholesale druggists, Chicago, (page 13).

JULIUS FEHR, Hoboken, N. J., "Compound Talcum," (page 14).

LEROY W. FAIRCHILD Co., New York. The celebrated "Fairchild Fountain Pen," (page 25).

THE N. Y. & CHICAGO CHEMICAL Co., (Gaunt & Janvier, Agents, "Golden Scale Pepsin," (page 30).

HORLICK'S FOOD Co., Racine, Wis., (page 32).

HARRIS, L. H., Pittsburgh, Pa., "Gilliford's Solution," (page 29).

HIBBARD, SPENCER, BARTLETT & Co., Chicago, (page 15).

THE HUNTER SIFTER AND MIXER, always gives satisfaction, (page 12.)

R. E. HITCHCOCK & Co., Waterbury, Conn., paper boxes, etc., (p. 23).

INTER-STATE DRUGGISTS' AGENCY, Chicago, the original and inexpensive plan for selling or buying drugstores, (page 23).

CARL JENSEN, Philadelphia, "Jensen's Crystal Pepsin," (p. p. 21 & 24.)

H. M. JOHNSTON, New York, Johnston Kalsomine, page 22.

E. J. KNOWLTON, Ann Arbor, Mich, the "Universal Bath," page 22.

JEROME KIDDER MFG. Co., N. Y., Electro-Medical Batteries, p. 31.

NICHOLAS KUHNEN, Davenport, Ia., the rapid-selling "Pappoose" Cigar, page 9.

THE LIEBIG L. AND C. WORKS Co., New York, Liebig Specialties, page 17.

EDWARD LONG, Chicago, "Long's Pearl Tooth Soap," page 29.

J. B. LIPPINCOTT Co., Philadelphia, Pa., "Books for the Druggist," page 10.

MCKESSON & ROBBINS, (A. R. Lewis, manager, Chicago Branch.) page 17.

WM. S. MERRELL CHEMICAL Co., Cincinnati, "Hydrastis and Its Preparations," page 18.

MUNSON & Co., New Haven, Conn., Paper Boxes, page 26.

R. W. MCCREADY, Chicago, manufacturer of Machine-cut Corks of every description, page 17.

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THE WESTERN DRUGGIST.

VOL. VIII. No. 7. JULY 15, 1886. Subscription Price, $1.00 per annum. G. P. ENGELHARD & CO., Chicago.

HYDROGEN PER-OXIDE.

ITS REACTION WITH PERMANGANATE OF POTASSIUM IN THE PRESENCE OF DILUTE SULPHURIC ACID.

BY H. W. SNOW, DETROIT, MICH.

Per-oxide of hydrogen, owing to its great oxidizing and bleaching power, finds considerable use in arts and manufactures; and as it is exceedingly prone to decomposition, it becomes a matter of interest to estimate rapidly and accurately its true strength.

As found in commerce it is, as is well known, not the pure preparation, which decomposes, slowly at a low temperature, leaving water behind, while at 20° C. (68° F.) the bubbles of oxygen gas are plainly seen to be given off, and if boiled the gas is liberated rapidly, often with explosive violence. Its aqueous solution when dilute is comparatively stable, particularly if it contains a little free acid, and is bought and sold, not by percentage, but on the number of volumes of oxygen gas it will liberate, and on which its value depends, these solu tions being designated as "10 volume," "12 volume," "15 volume," according as they liberate ten, twelve or fifteen times their own volume of oxygen gas. Theoretically, pure hydrogen per-oxide will liberate 501.8 times its own volume of gas; practically, however, Thenard obtained but 475 times its volume. According to this, it will be seen that a 1 per cent. solution would liberate about 5 volumes, or a 3 per cent. solution about 15 volumes of oxygen gas. The writer presumes that in making this estimate the gas liberated is supposed to be of that measure when at standard temperature and pressure, but does not know this to be the fact. In his own practice he follows this presumption.

Permanganate of potassium in the presence of dilute sulphuric acid has been proposed as a volumetric reagent for determining the strength of the commercial article; but the chemist, desiring to use it for this purpose, finds, upon consultation of the various authorities upon the subject, two equations given as representing the reaction which takes place, each differing very materially from the other:

(A) $2KMnO_4+3H_2SO_4+H_2O_2=K_2SO_4+2MnSO_4+4H_2O+6O$.

(B) $2KMnO_4+3H_2SO_4+5H_2O_2=K_2SO_4+2MnSO_4+8H_2O+10O$,

and each seemingly to have been stated on theoretical grounds. On these theoretical grounds the writer would prefer equation B, as it is in accordance with the general principles governing oxidation and reduction; but, laying aside theory, a few experiments were performed with a view of settling the question. The experiment was based on an estimation of the oxygen gas liberated from a known weight of permanganate of potassium, and was briefly as follows:

A solution of permanganate of potassium was made containing 6.320 grams per liter; 10 C.c. of this solution were then carefully introduced into an Allen's nitrometer, straight form, inverted over mercury, all portions being carefully washed in with water. Next a 15-volume solution of hydrogen per-oxide acidulated with dilute sulphuric acid was carefully introduced until the color of the permanganate was destroyed. In performing this operation 22 C.c. of water were introduced at the same time. This is of importance, as we shall see later on. When the reaction had ceased the nitrometer was transferred to a jar containing a saturated salt solution, allowed to stand a few moments, the liquid inside and outside brought to the same level, and the reading taken. The gas was found to measure 24.2 C.c. (as an average of three determinations), the temperature being 22° C. and the barometer standing at 29 inches.

Now, oxygen gas is not wholly insoluble in water, one volume dissolving .04115 volumes of gas at 0° C. As the temperature rises, this amount decreases according to a complicated law which is expressed by the empirical formula:

$$C-(0.4115-0.00\ 10899\ t)+0.000\ 2563\ t^2.$$

Using this formula as a guide, and knowing that the 22 C.c. of water introduced into the nitrometer had a temperature of 22° C., the calculation is easily made as to the amount of gas still held in solution and not measured. The amount found was 0.62 C.c., which, added to the amount actually measured, gives 24.82 C.c. of gas, which at standard temperature and pressure would measure 22.2 C.c., and the weight (1 C.c. weighing 0.00143 grams) of which would be equal to .03175 grams. If we now assume equation A to represent the true reaction, we would find by calculation

$$\begin{array}{l} 315.88 : 95.76 :: .0632 : X = .0191 \\ 2KMnO_4 \quad 6O \end{array}$$

that the gas liberated should weigh .0191 grams, which is at variance with the facts.

On the other hand, assuming equation B to be the correct one, the gas liberated should weigh

$$\begin{array}{l} 315.88 : 159.6 :: .0632 : X = .03193 \\ 2KMnO_4 \quad 10O, \end{array}$$

which agrees, allowing for experimental errors with the amount actually obtained, thus showing this to be the true equation representing the reaction. It is, perhaps, less satisfactory to estimate the oxygen gas held in solution by the water than to follow a course which would make this unnecessary, but even ignoring that amount and making the calculations, the difference between the theoretical and actual yields is small (being .03193 against

.03115), and in other respects the very simplicity of this determination is in its favor, as it eliminates other possible sources of error, which would enter into a more elaborate series of experiments.

It now being definitely settled as to which of the two equations truly represents the chemical reaction which takes place, it is a very simple matter to estimate the value of any given sample of hydrogen per-oxide. Make a 1-5 normal solution of permanganate of potassium by dissolving 6.320 grams of the salt in one liter of water, and with this solution titrate 5 C.c. of the preparation which it is desired to test, and which has been slightly acidified with sulphuric acid to a slight color. The number of cubic centimeters of permanganate used divided by the number of cubic centimeters of hydrogen per-oxide taken, and the difference multiplied by 2.2328, gives the number of volumes of oxygen gas which the preparation will yield.

Employing this method in the testing of ten samples, the writer obtained results as follows: 14.8 vols., 19.4 vols., 11.9 vols., 0.8 vols., 10.8 vols., 7.3 vols., 20.9 vols., 17.1 vols., 19.2 vols., and 16.2 vols.

HYDROCHLORATE OF QUININE.*

BY HENRY W. FULLER, NEW YORK.

Hydrochlorate of quinine was made officinal in 1880. Concerning this salt, it is stated in the U. S. Dispensatory (15th edition): "This is another new officinal quinine salt, for the introduction of which there seems to be no good reason, as its medical properties and uses are precisely those of the sulphate."

Good reasons exist for the official recognition of this salt. Its introduction to the officinal list indicates that some practitioners already recognize its value, and in the statement that it possesses the same medical properties as the sulphate, we perceive not only a reason for its place in the Pharmacopœia, but an argument for its more extended use.

Sulphate of quinine is soluble in 740 parts of water. Hydrochlorate of quinine is soluble in 30 parts of water. The hydrochlorate is better adapted to the stomach than the sulphate.

The hydrochlorate contains 10 per cent. more quinine (alkaloid) than the sulphate, and 38 per cent. more quinine (alkaloid) than the bisulphate.

The use of the Hydrochlorate of Quinine is increasing in Europe, especially in Germany and Russia. During the Turkish-Russian war an opportunity was afforded the Russian government for testing on a large scale the relative merits of the sulphate and the hydrochlorate of quinine. The quantity used in one year is said to have been upward of 150,000 ounces of *each* salt. The result was favorable to the hydrochlorate.

The writer of this paper urges its use on the following grounds:

1. Hydrochlorate of quinine is combined with a smaller quantity of acid (hydrochloric acid is better for the system than sulphuric acid).

2. Hydrochlorate of quinine is more soluble in water than the sulphate, and consequently more effective.

3. Hydrochlorate of quinine contains a larger proportion of the alkaloid (quinine), which is the real febrifuge.

To the foregoing may be added the chemical reason that it is comparatively easy to produce the hydrochlorate in a high degree of purity.

The Hydrochlorate of quinine crystallizes in "white, lustrous needles," somewhat larger and heavier than the sulphate. Hydrochlorate of quinine is more expensive, being one-third higher in price than the sulphate. Its greater efficiency fully compensates for the enhanced value.

[Samples of pure Hydrochlorate of Quinine made by the New York Quinine and Chemical Works (Limited) were submitted with this paper.—ED.]

*Paper read before the Illinois Pharmaceutical Association, 1886.

JEAN BAPTISTE ANDRE DUMAS.

BY FREDERICK B. POWER.

(Continued from June Number.)

At the very commencement of his labors in the cause of organic chemistry, Dumas had found himself face to face with a powerful rival in Germany, who, setting out by a curious coincidence from the same starting point, the study of pharmacy, had entered the lists without passing through the physiological and natural history stages of his competitor. Liebig and Dumas have had, indeed, some strange encounters on the field of science. Still these collisions, arising chiefly from their having simultaneously engaged in the same inquiries, did not surprise them. They knew very well that at a time when organic chemistry had, as it were, to be reconstructed on a new basis, it was far less important to discover new bodies than to assign their place to those already known. There was no lack of phenomena observed, but not explained, and it was therefore but natural that many of the problems to be solved should simultaneously engage the attention of several inquirers.

These encounters were occasionally rather violent, as might have been expected when two young and fiery champions, each persuaded of the justice of his views, were rushing at each other. Once or twice perhaps in the heat of battle an unguarded word might have sounded like personal provocation, but, however fierce the aggression, the combatants never forgot that they were both fighting under the banner of truth, and the contest having been decided the antagonists invariably separated with increased regard for each other.

The sentiments of affectionate regard which were entertained by Dumas for Liebig were warmly reciprocated by the latter, who expressed them on several occasions, but never more emphatically than when dedicating to Dumas a German edition of his "Familiar Letters on Chemistry." The note which Liebig on this occasion addressed to his former antagonist was as follows:

"My Dear Dumas—It was by a strange coincidence that for more than a quarter of a century our labors in the cause of science, to which our lives have been devoted, were prosecuted in the same

direction. If the roads by which we endeavored to obtain the goal were often different, in the proximity of that goal we always met in order to shake hands with each other.

"Not only your country, but the whole scientific world, acknowledge the range, the depth, and the importance of your researches and discoveries, but no one knows better than myself the obstacles which your genius had to surmount in order to achieve those inestimable conquests which, in a measure, constitute the foundation of modern science. Though contending with difficulties of every kind, you never descended into the arena without leaving it as a conqueror.

"Permit me, in deep-felt recognition of the services which you have rendered to science and to mankind at large, to dedicate to you this little work, in which I have ventured to sketch for an enlarged circle of readers the inward movement of scientific and applied chemistry, to which you have so much contributed. Your approbation would be the highest reward I could possibly hope for.

LIEBIG.

GIESSEN, June, 1851."

Dumas' early labors in the field of experimental investigation were by no means exclusively devoted to organic chemistry. One of his first and most important researches embraced a series of experiments which, as he stated, were "intended to fix the atomic weights of a considerable number of bodies by determining their density in the state of gas or vapor." This investigation has also for one of its immediate results the perfection of the method for determining vapor densities, which has since experienced but little change, and on account of its elegance and simplicity still continues to be frequently employed in chemical laboratories.

While subsequently engaged (about the year 1826) with researches pertaining to the constitution of alcohol, ether and the compound ethers, a strange incident directed the attention of Dumas to a very different order of phenomena, the study of which occupied him for many years of his life, and ultimately led him to one of his finest conceptions, namely, the theory of substitution. It is, indeed, a very interesting fact that the origin of the substitution theory may be traced to a *soiree* at the Tuileries, which Dumas himself has most graphically described. One evening the visitors at the palace were greatly incommoded by the irritating vapors diffused throughout the apartments, and obviously arising from the wax candles burning with a smoky flame. Alexandre Brongniart, in his capacity of director of the porcelain manufactory at Sevres, was looked upon as chemist to the king's household, and it appeared but natural that he be consulted respecting this unpleasant incident. Brongniart intrusted his son-in-law with the task of investigating the suspicious candles, and Dumas was all the more inclined to engage in this inquiry, since he had already made some experiments in that direction, having been asked by a merchant to suggest a method of bleaching certain kinds of wax which resisted the ordinary processes, and thus remained unsalable. Dumas had no difficulty in supplying the explanation. The irritating vapors were hydrochloric acids, and it was thus obvious that the candle manufacturer supplying the palace had made use of wax bleached with chlorine, and that this wax had retained some chlorine, which during its combustion in the candles was evolved in the form of hydrochloric acid. This inconvenience experienced in the king's apartments was thus easily explained. At the same time it was proved by experiment that organic substances when treated with chlorine are capable of fixing this element in quantities far too large to admit the assumption of its presence being an accidental contamination, and a new field of investigation was thus opened.

Thus the palace of the Tuileries, like the Luxembourg, in addition to its historic traditions has also its scientific associations. It was, indeed, a strange and most interesting circumstance that a sunbeam, brilliantly reflected from the windows of the Luxembourg and casually observed by Malus through a plate of Iceland spar, unveiled the phenomena of polarization, and added a new province to the domain of physics, while the irritating vapors which emanated from the wax-lights dimly burning in the ball-rooms of the Tuileries induced Dumas to examine the action of chlorine upon organic substances, and thus gave rise to speculations as to the nature of chemical compounds, which still continue to exert a powerful influence upon the progress of chemistry.

In connection with this subject, or the influence of the theory of substitution upon the progress of chemistry, an amusing incident in which Liebig participated may be mentioned, as related by Professor Hoffman. The International Exhibition of 1867 had assembled in the French metropolis a great number of chemists of all nations, who were most hospitably received by their colleagues. It was on this occasion that Dumas and Liebig were again brought together after an interval of many years, and it was not long before an opportunity was afforded them of giving public expression to the friendly feelings by which they were animated. At a banquet to which the chemical visitors to the exhibition were invited by their French colleagues, Dumas was in the chair, while Liebig sat opposite him. In the course of conversation Dumas asked his quondam opponent, with whom in early life he had had so many fierce encounters, how it was that for years he had exclusively devoted himself to agricultural chemistry. "I have withdrawn from organic chemistry," replied Liebig, "for with the theory of substitution as a foundation, the edifice of chemical science may be built up by workmen,—masters are no longer needed." This reply, which of course should not be taken seriously, shows, nevertheless, how thoroughly Liebig must have been converted to the importance of the interpretation of chemical phenomena, as outlined in the theory of substitution.

The researches of Dumas which are more directly associated with the development of this theory extend over quite a group of organic substances, including the action of chlorine on cinnamon oil, olefiant gas, ether, alcohol, acetone, marsh gas, acetic acid, etc. He also directed the attention of chemists to the close analogy between acetic and benzoic compounds, as demonstrated by the action of chlorine upon bitter almond oil, and embodied in the synoptical table drawn up for this purpose several substances, then hypothetical, but which the progress of chemistry has not failed to call into existence. His investigations, undertaken conjointly with Stas, on the action of alkalies on

alcohols and ethers, and other closely allied compounds, such as glycerin, aldehyde, acetone and the compound ethers, the subsequent formulation of the homologous series of so-called fatty acids, and especially the revision or more accurate determination of the atomic weight of carbon, afford examples of ample and painstaking inquiry which may ever be looked upon as models for experimental research.

To Dumas, as well as to Liebig, we are indebted more than to any other chemist for the development and perfection of methods relating to the analysis of organic substances. The method of Liebig for estimating carbon and hydrogen, and that of Dumas for estimating nitrogen, still remain quite inseparably associated with the language of the laboratory. Although, indeed, several other processes for estimating nitrogen have since been developed, and are considerably employed, the method of Dumas, which is so well known to every chemist, and consisting as it does in collecting the products of combustion, carbonic acid and nitrogen, in a graduated cylinder over caustic potassa and thus measuring the volume of nitrogen, is so simple in principle, so easy of execution, and one admitting of such universal application that it will doubtless long continue to possess its present undiminished value.

Among the more extended inquiries with which Dumas occupied himself should be mentioned his researches on alcoholic fermentation, which were published in 1872. The minor investigations with which his name is associated are so numerous as to admit of but a passing notice of the subjects of which they treat, and even these can not be completely enumerated here. Among those of more general pharmaceutical interest it may therefore suffice to allude to the experiments on the composition of the organic alkaloids, which were undertaken with Pelletier at the very outset of his career, the analysis of mustard oil, the products of the dry distillation of resin, the constitution of some of the more important organic acids, such as tartaric and citric, and his long continued researches on bodies related to camphor and some of the volatile oils.

The literary works of Dumas present considerable variety, both as to the subjects discussed and to the form of treatment adopted. There are several elaborate treatises and a great many minor pamphlets. His academical notices, his official documents, his municipal reports, his festal speeches, his opening discourses, his commemoration addresses, and his funeral orations are almost countless. Among his more important writings should be especially noticed the *Traite de Chimie appliquee aux Arts.* This extensive work consists of eight volumes, the first of which appeared as far back as 1828, while the last one was published twenty years later, and has since been translated into several languages. At a later period, or about ten years after the first volume of the above mentioned work had appeared, Dumas' celebrated *Lecons sur la Philosophie chimique* were published. In this work, which consists of eleven lectures delivered in the summer of 1836 in the College of France, he traces the development of chemical doctrines from remotest antiquity up to the time at which the course was given. These lectures on chemical philosophy have also appeared in several translations, the German one being by Prof. Rammelsberg, the eminent successor of Heinrich Rose in the University of Berlin. The lecture with which, on Aug. 20, 1841, he concluded his course of chemistry in the Medical School of Paris, may also be briefly referred to. This was published under the title *Essai de Statique chimique des Etres organises,* by Dumas and Boussingault, and gives in a simple form the principal features of the life of plants and animals, considered from a chemical point of view.

The important series of commemoration addresses which Dumas delivered on many of his departed friends and colleagues embody so much of interest that each, if collected, would form an imposing volume. One of the most interesting of these, however, especially for chemists, is that on Jules Pelouze. The latter was one of the first chemists in France who afforded to a considerable number of students the opportunity of working practically in his laboratory; and this circumstance gives Dumas occasion to speak a powerful word for the institution of public laboratories, such as Germany, led by Liebig, already possessed in all its universities. The views so aptly expressed by Dumas on that occasion with reference to the value of practical laboratory instructions deserve, moreover, the most thoughtful consideration of all who, in our own time, are interested in scientific progress, and the paragraph in question may, therefore, properly be quoted in its entirety:

"It is no longer doubted that the laboratories where chemists receive their training are public institutions worthy of encouragement by the State, and that the teachers who devote their energies and talents to superintending them deserve the recognition of their country. It is not long ago, however, since public opinion, loth to acknowledge their efforts, viewed them with an unfavorable eye. It seemed natural enough that a painter or an architect should be surrounded in his studio by pupils sharing his work, and should form a school. But this ambition ceased to be respected when manifested by a chemist. Were not teachers so lavish of their instruction moved by interest or by pride, rather than by the love of truth? Were not the slowly elaborated results of solitary investigation to be preferred to the hurried communications so frequently ventured upon through the feverish excitement of working in company? Were fruits hastily ripened by the forced cultivation of the hothouse likely to be sweeter than those grown in the open air and gathered in their season? Did not these proffered facilities, these subjects of research suggested by the master and discussed amongst fellow students relax personal effort, and was not their tendency to develop pretensions rather than to create or discover talent? Experience has given its answer. These mutual schools of chemistry, where professors and students interrogate nature together, have accomplished more in fifty years than the work of several centuries. They spread over the surface of the globe chemists animated by noble ambitions, new laborers whose intellectual work promises to restore to the earth the fecundity exhausted by the labor of the hand of man."

In connection with the enumeration of these commemoration addresses on Pelouze, Saint Hilaire, De la Rive, the two Brongniarts, and Balard, which were delivered at the annual public meetings of

the Academy of Sciences, his beautiful Faraday lecture should not remain unnoticed. It is well known that soon after Faraday's death in 1867 the Council of the Chemical Society of London organized a periodical celebration of his life and labors by instituting a triennial prize to be conferred upon scientific men of all countries, whom they proposed from time to time to invite for the purpose of rendering homage to the memory of the great experimental inquirer of the century. In 1869 Dumas thus received the Faraday medal, and opened this cycle of addresses by delivering a most eloquent lecture in the theater of the Royal Institution, where the voice of Faraday himself had so often been heard.

Almost immediately after the revolution of 1848 new labors of the most diverse kind began to encroach upon Dumas' scientific work. The political and social upheaving of that period, shaking, as it did, the stability of all French institutions, turned into political and administrative courses many men of eminence whose energies had hitherto been exclusively devoted to the service of science. Election to the National Legislative Assembly, appointment as Minister of Agriculture and Commerce, admission to the Senate, presidency of the Municipal Council of Paris, and nomination as Master of the Mint of France, were the successive steps by which Dumas speedily rose in his new career. That the time and energy devoted to these important positions were lost to scientific investigation no one can doubt, and no one was probably more sensible of this than Dumas himself, as is quite evident from the lines addressed to a friend but a few years before his death, which were as follows: "My life has been divided between the service of science and that of my country. I would rather have remained the servant of science alone, but, sprung from the obscure ranks of the democracy, I always thought that my country had done so much for me that no devotion on my part could be refused to it. If I have deceived myself, science itself will not hold me guilty. In limiting myself to scientific pursuits, I should have been happier, my life would have been a less anxious one, and perhaps I should have attained a larger view of truth."

That such scientific services as have been briefly delineated in the preceding pages, and which were continued for more than half a century, should have been accorded a rich share of even the external marks of honor, was to be expected; and, indeed, there has existed no scientific academy or learned society but has deemed it an honor to inscribe the name of Dumas on its register. Having been made a member of the French Institute at the age of thirty-two, he became a correspondent of the Berlin Academy of Sciences in 1834, and a Foreign Associate of the Royal Society in 1840. He was also an honorary member of the English, French and German Chemical Societies. In 1843 the Royal Society awarded to him the much coveted Copley medal; and that he was the first to obtain the Faraday medal, the gift of the Chemical Society of London, has already been mentioned. Dumas was a Knight of the Prussian order *pour le merite*, the highest scientific honor Germany can bestow, received the Grand Cross of the Legion of Honor, and was also a knight of a considerable number of other orders throughout the world. In 1880 the *Societe d'Encouragement* presented him with a civic crown in acknowledgment, as was stated, of the services rendered to science and to France during more than half a century. In 1882, at a meeting of the Paris Academy of Sciences, he was presented with a medal, subscribed for by his admirers, as a testimonial on the occasion of the fiftieth year of his nomination as an academician. The medal, which bore the inscription: To "J. B. A. Dumas, *Ses confreres, ses eleves, ses amis, ses admirateurs*, 1832–1882," was accompanied by silver and bronze replicas, and upon its presentation it is stated that the whole of the large audience broke into the most enthusiastic plaudits.

On the 11th of April, 1884, in the little town of Cannes, in Southern France, whither he had gone for a short period of recuperation and rest, the noble life of Dumas, so fruitful for science and for humanity, was brought to a close.

DETERIORATION OF SYRUP OF WILD CHERRY.

Mr. Baker, at the meeting of the Virginia Pharmaceutical Association, said in answer to the query: "Why is syrup of wild cherry bark made according to the United States Pharmacopœia formula liable to deteriorate after a time," that the author of it must have meant the formula of 1870, in which the absence of an ingredient tending to retard fermentation resulted in deterioration. The 1880 formula contained glycerin, but not in sufficient preservative quantity. His formula, which he had used from 1872, was as follows:

℞	Wild cherry bark	ounces, 5
	White sugar	" 22
	Glycerin	" 4
	Distilled water	sufficient.

Mix the glycerin with water 1 pint.

Moisten the bark and macerate twenty-four hours. Transfer to a glass percolator, and displace to two pints with the water. Place the sugar in a glass displacer, and pass the percolate through, until the sugar is all dissolved. This is essentially the formula of the Pharmacopœia of 1880, except that it contains twice as much glycerin, and less sugar. The resulting syrup was clear and beautiful. The syrup could be rendered much more stable by filtering through a wet filter, thus removing the insoluble organic matter, which has a tendency to promote fermentation. This process greatly improved the transparency of the preparation. In the discussion Mr. Blair, of Richmond, said that so far as his experience went, glycerin for the purpose was no good. Two grains of borax to the ounce of syrup was the most effectual preservative, no wise affecting the peculiar flavor of the wild cherry. Mr. Baker thought the failure of the glycerin was due to his using too small a quantity.

Prof. Bedford said benzoic acid was the best for this purpose, no harm whatever could follow from its use; it did not destroy the flavor or impart any peculiar taste.

DOES COMMERCIAL ROCK CANDY SYRUP CONTAIN GLUCOSE?—Mr. C. F. Hall, Youngstown, Ohio, at the late Ohio Pharmaceutical Association meeting read a paper in answer to the above query, in which he took the ground that large quantities of rock candy syrup put upon the market do contain glucose, but the question whether it was added as an adulterant or with fraudulent intent, was not easily determined.

DOCTOR AND DRUGGIST.

BY OTTO SCHNURRER, BROOKLYN, N. Y.

III.

PRESCRIBING OVER THE COUNTER.

The friendly relations that exist, or ought to exist, between the physician and the druggist are frequently disturbed by "prescribing over the counter"—dispensing medicine without a doctor's prescription.

The question, therefore, presents itself, *on what ground may such a practice be defended, and what are its limits?*

There are different ways in which medicine may be dispensed without a doctor's prescription, and the propriety of so doing can neither be asserted nor denied until we distinguish between those different ways.

In the first place, a party buying medicine may have made the diagnosis of his own case or of the ailment of somebody else under his care and control, and, without asking the apothecary's advice as to the selection of the remedy, he may simply call for some distinct article of the materia medica, either simple or compound, crude or prepared.

In the second place, he may, as before, make his own diagnosis, but ask the apothecary's counsel as to the preference to be given to this or that medicine.

And in the third place, he may request the apothecary to make out the nature of the disease and dispense the right medicine for the same. In this case we must again distinguish between two suppositions; 1st, that the party taking the medicine knows the apothecary to be no physician; 2d, that the apothecary fraudulently assumes the title and character of a physician.

Every kind of dispensing medicine without a doctor's prescription must fall under the one or the other of these three heads; but not every one of them can be called "prescribing over the counter."

A great number of medicinal substances and preparations, commonly called "domestic remedies," such as castor oil, epsom salts, senna, peppermint, chamomile, ipecac, squill, paregoric, Hoffman's anodyne, and many others too numerous to mention, together with the whole host of patent and proprietary medicines, are daily sold to and used by the intelligent as well as the ignorant, in a manner mentioned under the first head. Now, these remedies, however harmless they may appear in themselves, are, nevertheless, either hurtful or useful or indifferent according to the circumstances under which they are applied, because the condition, age, or sex of the patient, the dose of the medicine, its repetition, and the time when given, will regulate and modify their therapeutic action.

And, yet, no sane man, be he a physician, a lawyer, or a legislator, has ever objected to this natural method of every man being his own doctor, and for reasons to be shown further on. Even in the model states of hygienic government of the old country, the free use of such household-remedies by the people and their unrestricted sale by the druggist (excepting secret medicines), are not prohibited; though, for the sake of good order and out of regard for the preservation of ancient landmarks in business, no one outside of the pharmaceutical profession is allowed to handle them.

If, as shall be proved hereafter, everybody that is not a minor, an idiot, a slave, or a chattel, has the innate and inalienable right to make a diagnosis (true or false) of his own kidneys, liver, stomach, blood, and their aches, without any medical guardianship whatever, it will make little difference to him, whether he buys that Warner's Cure, those Vinegar Bitters, that Golden Medical Discovery or that celebrated St. Jacob's Oil, from a registered druggist or from the Ridleys, the Loesers, the Abrahams, and the Indian Kickapoo doctors. It is evident that, under this head, an immense amount of medicine is dispensed without a doctor's prescription, and that the charge of prescribing over the counter cannot be urged against the druggist whenever he deals in such commodities.

Now, with regard to the more powerful remedial agents, such as morphine pills, quinine mixtures, opium solutions, strychnine, iron and cinchonidia elixirs, colchicum, nux vomica, iodine and other tinctures, there are either laws regulating their sale, or there are not; these laws are either wise, or they are not; they were passed either in the interest of a class, or they were not; but, whatever this may be, the prudent apothecary will not disregard them.

Apart from these considerations, however, it is evident that if a mother may drug her baby with Mrs. Winslow's soothing syrup, she must also have the right to quiet her drunken husband with a dose of laudanum or bromidia. If the young man of the period may, without breaking any civil ordinance, fetch himself the fashionable disease, he must also have the liberty of calling for a box of sandal oil capsules or a copaiva mixture. If the old or the new settler gets his periodic fits of malarial shaking or writhes in the agonies of rheumatism, he cannot be prevented from sending for some morphine pills, a mixture of quinine and aconite, a compound of guaiac and colchicum, or a solution of iodide in sarsaparilla, etc., *even without a doctor's prescription*, provided he has the knack of doing the thing, knows how to call for it, and is able to distinguish between a teaspoonful and a bucketful. But the druggist furnishing such medicine upon such intelligent and legitimate demand, though he may perchance violate some local statute prohibiting such sale, does not violate any general principle of reason or justice, and cannot, under such circumstances, be charged with "prescribing over the counter." For the mere fact that some medicines are of a more powerful nature than others, does not preclude their use as household remedies, whenever and wherever their properties are known and understood. Indeed, many of them were known and used by the common people of civilized countries, as well as by Indians, negroes and other savages, long before the medical profession took hold of them or knew anything about their properties. So gelsemium, gossypium, cimicifuga, on the plantations of the South; many roots and herbs in the forests of the North and the mountains of the West. From time immemorial have opium, cannabis indica, nux vomica, croton oil, cajeput, and other powerful substan-

ces been used as regular household-remedies and panaceas in the far East; assafœtida, in Persia; agaric, in Tartary; colocynth in Africa and Turkey; mezereum, in Russia; cantharides, in the countries about the Mediterranean Sea; aconite, hellebore, and digitalis, in the mountain districts of Europe; belladonna, stramonium and hyoscyamus, by the shepherds and country people of the lower regions for allaying pain in beast and man. We have learnt the use of ergot from the midwives of the old country; of buchu, from the Hottentots; of coca, ipecac, copaiva and cinchona, from the South American Indians; and the fact that physicians have adopted these remedies, farther investigated their properties, and registered them in the Pharmacopœia, cannot divest them of their domestic rights and character, whenever a party may be familiar with their use. Hence any regulation prohibiting the intelligent and discriminating sale of such remedies by a qualified pharmacist, would seem to be arbitrary and lead to the introduction of bureaucratic chicanery, and an odious tampering with the rights of the people in general, and those of the druggist in particular.

Or, should the party taking the medicine be accountable to this or that school of physicians, old, new, eclectic, allopathic, homœopathic, hydropathic, etc., for what he wants to take? And, if not, should the druggist furnishing it be responsible any farther than to satisfy himself that no mistake be committed in using it? *Is the druggist's therapeutic knowledge that formed an essential part of his pharmaceutical education a mere tenure at the hands and for the benefit of the physician?*

We should think not! And with regard to the possible misuse,—this cannot prove anything against the right use, the less so, as even doctors' prescriptions are not proof against abuse. What a spectacle then, would it be to the world, to angels, and to men, if we should see a body of well-fed Knights of Medicine attempt to prosecute some poor druggist for the crime of having dispensed a compound stronger than peppermint water; or perhaps boycott him as a pharmaceutical "scab," for refusing to play the part of a wagtail! It would scarcely be a triumph of modern science, if the "Wardens of Public Health," with gold-rimmed glasses, should go after and put down some humble tapeworm exterminator who may have the knack of doing in two hours what some members of the profession could scarcely do in so many days or weeks. And as to the consolation which every good citizen must feel when he hears that there are patriots in our midst ready to defend our lives and our health against the attacks of external and internal foes, it would seem almost miraculous that our republic has survived a hundred years without enjoying such generous protection! Passing now to our second supposition in which the patient has, likewise, made out the nature of his own disease to his own satisfaction and without consulting a physician, but wants the apothecary's advice as to the selection of the best remedy; the ordinary way in which this happens may be described as follows:

A man reads the medical advertisements in the newspapers, the patent medicine pamphlets and almanacs; he thinks what the Vinegar-Bitters man, the Sarsaparilla man, the Seaweed-Tonic man, the Acid Phosphate man, or any other modern Haruspex man says, exactly fits his case; or he rises one step higher and consults "Dr. Chase's Receipt Book," "Dr. Gleason" and "Burner's Lectures on Health," or some other popular "Treatise on Medicine;" he may even have studied, when at college, some such book as "Dalton's Physiology," "Cutter's Anatomy and Hygiene," etc.; and without claiming to be a medical student, he may have learnt from Flint's "Practice of Medicine" that a goodly number of diseases are self-limited and call for no particular plan of treatment beyond the ordinary rules of hygiene and common sense, that the "expectant plan" is often resorted to by physicians with a little show of quassia infusion or a few anodyne drops; and also, that many remedies, once highly appreciated in this or that disease, have since been abandoned as hurtful or useless.

Considering these therapeutic uncertainties, together with the difficult choice of a physician and perhaps also the doubtful state of his own purse, he makes up his mind to doctor himself. Feeling the subjective symptoms of his ailment in his own body and noticing some objective symptoms besides, he resolves to try some patent medicine or one of the recipes taken out of his book and supposed to fit his case. It occurs to him, moreover, that the apothecary also, must needs know a thing or two about medicine, and that he may have the benefit of it without extra charge. Calling for a patent medicine or presenting his recipe, he adds that he will take it or anything better the druggist may know of. If the latter now recommends "Pepsin Tablets" instead of "Seven Barks" or "August Flower;" "Hood's Sarsaparilla," instead of "Hyatt's Infallible Balsam;" Ayer's Fever Cure, instead of Green's Ague Conqueror, or, if he draws his customer's attention (as he has the right to do whenever he pleases) to the unknown character of most of these compounds and recommends in their stead (as he has a right to do) his "Own Stomach Bitters," his "Own Blood-purifier," his "Own Cough Cure, Plaster, Liniment, or Pill," of which he knows the ingredients and can calculate the effect; he certainly remains within the sphere of his legitimate business and does not trespass upon anybody's right or monopoly. If he suggests an improvement upon the private recipe laid before him in the way of adding one item or leaving out another, or, if he simply puts up a prescription from Griffith's or anybody else's formulary, *suitable to the case as stated by the purchaser*, he is not guilty of prescribing over the counter any more than if he had recommended "Plantation Bitters" or "Shaker's Extract." But, if the medical prohibitionist of the orthodox school should still object to this way of dispensing medicine, if he should insist upon having the entire control of the materia medica for himself, because, forsooth, somebody might get poisoned without his prescription; there would seem to be no good reason, why, for instance, the tonsorial brotherhood too, should not clamor for the exclusive right of handling the razor; the butcher's guild, for the carving knife; the military band, for gunpowder and firearms; the carpenter's union, for saw and hatchet, as, indeed, somebody not belonging to the brotherhood might hurt himself, cut his throat, blow out his brains, or stab his neighbor. If the liquor and the drughouses are to be put under medical guardianship, why not also the hardware, dry and fancy goods business, in

which, likewise, many things are bought and sold that are dangerous to life, health and morality? But even as it is, we are already fenced in too close, and a man, nowadays, can hardly move without stepping on somebody's toe or violating somebody's right, patent, or monopoly. Even such common property as the terms "Iron Tonic" may now be appropriated to somebody's exclusive use! Should our thirty-eight legislative mills with their headquarters at Washington continue to make and mend laws, creating privileges and obligations, as they have done for the last twenty-five years, at the request of this or that clique; there will be finally nobody that knows what the law is, and nobody will be able to do business without hiring half a dozen professional counselors to pilot him through the legal breakers. As some of the finest specimens of ultra-legislative tutorship ever exhibited in modern times, may be mentioned the late prohibition enactments of Iowa and Kansas, which are just one step below the famous or infamous methods and decrees of Antiochus Epiphanes, who forced pork down the throats of the Jews and had them strangled whenever they refused to swallow it. Now, if doctors, druggists, lawyers, manufacturers and temperance apostles are so deeply concerned in special legislation, why should not others follow their example and go in for laws that will suit *their* particular ideas? Perhaps the time is not far off when the Knights of Labor may, by the overwhelming power of their votes and organization, succeed to realize their fondest hope, which is, that "by special legislation" nobody shall henceforth be allowed to buy or to sell anything without *their* label, nor shall anybody dare lift a hammer, handle a tool, drive a cart, or turn a wheel, without being registered on *their* books, or carrying the sign of the "Socialistic Beast" on his forehead!

There remains now to consider our third and last supposition, in which the apothecary is called upon to furnish not only the medicine, but also the diagnosis, of the disease.

It has been shown in a preceding article that what really distinguishes medicine from pharmacy is not Therapeutics or the science of the medical properties of substances and their application to diseases, but diagnosis, or the discrimination of diseases from each other. The former is common to both professions; the latter belongs exclusively to medicine. Hence, whenever the apothecary ventures upon the diagnostic functions of the physician, he oversteps his legitimate sphere of business and trespasses upon that of the medical profession.

This is the only rational criterion, based on the scope and character of the two professions, on which a charge of prescribing over the counter can be sustained. If, moreover, the apothecary should pass himself off as a physician, either explicitly or implicitly, when he is not, he would thereby become guilty of a fraud, both morally and civilly. Suppose then, a man comes to the drugstore and knows not what ails him, but wishes to get something to relieve him. Let now the apothecary commence to inquire into the subjective symptoms of his ailment and examine the objective ones, by inspecting his tongue, throat, and expectoration, by feeling his pulse, and taking his temperature; by auscultating his respiration; by analyzing his urine; by manipulating his liver and percussing his chest, or by any other physical exploration; and let him then proceed to dispense a medicine, be it the right one, or wrong one, he is guilty of prescribing over the counter, and of doing what he has no right to do, though he may not have assumed the title of a doctor. Whenever, therefore, the patient does not venture upon his own diagnosis, it is the duty of the apothecary to send him to a doctor, dispensary, or hospital. But, whenever the nature of the disease is self-evident, or stands on the patient's own diagnosis, and the apothecary possesses that therapeutic knowledge which, as a pharmacist, he ought to possess, he may not only dispense a medicine as of his own right, but he must sometimes do so even in violation of certain untoward laws and customs. Thus, let a man be stung by a rattlesnake and taken to the nearest drugstore in a locality where the prohibition folly makes the dispensing of liquor without a doctor's prescription a misdemeanor, punishable with prison and high-strung fines; it will be the duty of the apothecary to administer brandy or other alcoholic stimulants, unstintingly, as an imperative first measure, without waiting for the doctor's prescription, and in spite of the law. Cases are on record in Kansas, where men in such circumstances were actually left to perish for the druggist's cowardly acquiescence in a law made by quacks and enforced by harpies.

Again, let a person have swallowed some poison, either by accident or otherwise, the druggist must at once administer such emetics and take such measures, even of a heroic character, as may be indicated, without waiting for the doctor. So in cases of dangerous hemorrhage or whenever there is "periculum in mora;" examples of which might be multiplied, to show that the apothecary is looked upon by an intelligent public, as well as by the liberal minded physician, as his rightful substitute and his equal, *whenever diagnostic skill is not required.*

The question of "Prescribing over the Counter" has now been presented and discussed under the various aspects of which it is capable. In the position taken under our first two suppositions, the leading principle of argument has been that every man is the master of his own body and must, therefore, have the right of being his own doctor whenever he so chooses; from which would naturally follow the right to buy whatever medicine he wanted, and the right of the druggist to sell the same.

This inalienable right of being his own doctor which everybody has that is not a minor, an idiot, a slave, or a chattel, ought now to be established by argument; but our disquisition has already been spun out to a greater length than was at first intended. It must, therefore, be left to a later effort and, for the present, be allowed to stand on its own merits. Being, however, a proposition that would seem to be almost self-evident, it will hardly be contested by men who profess to breathe the atmosphere of a free country.

SODA BENZOATE IN CHOLERA INFANTUM.—Guaita has had very good results in the treatment of cholera infantum by soda benzoate (Alg. Wien. Med. Zeit, May 26, 1886) in 60 grain doses in twenty-four hours, preceded by a small dose of calomel.

ACCURACY AND DISPATCH IN A DRUGSTORE.

[BY S A. D. SHEPARD.]

The following are merely a few thoughts thrown hastily together as having an allusion to the idea embodied in the query, rather than as an answer to the query.

Never be idle—if your hands cannot be usefully employed, attend to the improvement of your mind. Eternal vigilance is the price of liberty. These are both old sayings, but like some other good things, the older they are the better they prove themselves to be, and truly in no place can the value of these sayings be better shown than in the retail drugstore.

Visit one store and you will find the proprietor or his clerk sitting down waiting for customers, perhaps reading a dime novel, or a trashy illustrated newspaper; look into his back room, into his cupboards and drawers and you will probably find dirt and disorder, and if you wait in the store awhile, you will be likely to find that his customers are few.

Visit another store; you find the proprietor or his clerk busy about something, his bottles are clean and bright, his preparations clear and attractive in appearance, and probably his customers numerous. In no place is the result of constant vigilance, industry and attention to business more apparent than in the drugstore, therefore, make it the first rule of the shop never to be idle.

It is surprising how many things a man will find need attention if he only looks for them. We need not be cleaning and arranging goods all the time there should be opportunity—regularly read the trade journals, etc., and thus keep abreast of the times. To my mind, there is no rule of the store so important as this one. Never be idle—because so many other things naturally lead from it. It will be the means of opening up many new methods of work *and lines of thought and action.* Second to this is system. This word should stand out boldly everywhere in the drugstore, not exactly in written characters, but in the arrangement of every shelf and glass case, and in every day's work. The store should be cleaned regularly. A certain day and time for this duty will make it easy and keep the store in good trim, whereas, if a man waits until he thinks the store needs cleaning it is not always easy to do it, and the store is dirty about half the time. But regularity brings the matter right, in spite of our natural laziness, for we are all creatures of habit, and a good habit is almost as strong as a bad one. It would be hard to carry this idea of system too far, and there is one direction in which a system is specially applicable to our line of goods. Let the *alphabetical arrangement* prevail whenever it can be introduced into the store, and it will materially assist in keeping things straight, for you will then acquire the habit of looking for A and B, at the left of the line, and W and Z at the right, every time.

Again, much trouble comes from getting out of goods. It is safe to say that no man can be implicitly relied upon to make an entry on the want book *every time* he should do so.

How then can we help *this* trouble? Have a stock book, and have some one go over the stock, *on some particular* day every week. This course will be found of great benefit to the store in more ways than one.

Again, keep poisons by themselves. This rule should be inviolable. It will save many an accident. It is very easy in any store to arrange some separate place for all the commonly used poisons, laudanum, morphine, arsenic, strychnine, prussic acic, corrosive sublimate and others, that we all could mention, and if it can possibly be done let them be so arranged that it will be an effort to get at them.

There is another very valuable rule, but it cannot be fully carried out in every store, for there are many stores in which there is frequently but one person in attendance. This rule is to have a second person compare the prescription with the person who has put it up. Let the person who put up the recipe tell over from memory just the articles, and the amount of the same that he put into the bottle, box or package, while the second person looks over the recipe and sees if he is correct.

Persons who have never put this rule into practice for a series of years will be more than surprised at its usefulness, especially in regard to correcting errors in numbering recipes.

Perhaps the best thing as to the numbering of prescriptions is to use an automatic numbering stamp. Those who have used these stamps claim great things for them, and all old druggists will bear witness to the fact that it must be a great comfort to have the feeling that your receipt file is absolutely correct in its numbering, and that the numbers are all plain and distinct.

Another rule, never compound any preparations from memory, no matter how well you may think you know the formula. It is safest to have the printed or written formula before the eye. It is much better to be sure than sorry.

Another little suggestion, when you have taken a bottle from the shelf, have used it and are putting it back in its place, keep your hand on it while you read the label, thus bringing your attention closely to that particular bottle. Some say they always look at the bottle after they have put it on the shelf and see that the liquid is in motion. This habit is good, but not so good as the other, for instance in the case of powders, crystals or solids, generally the first rule holds good, the second is of no use.

Again, when there are two prescriptions going into the same family at the same time, arrange that the two packages in which they are contained shall be marked differently in outward form or appearance, for instance, 2 recipes, each for 20 pills; put one into a round box and the other into a square box, or one in a box smaller than the other; the same with mixtures, one in a round or oval bottle, the other in a square, else make a difference in the size of the bottles, even if one bottle has to be a little larger than necessary to hold the liquid.

Use also colored bottles, blue, amber or green, for all preparations to be used only externally. This is an excellent rule. The roughened blue bottles are grand things for poisons, but we all put up many recipes where we might not think it wise to send the rough bottle on account of a sensitive customer, but the blue French-square prescription

*Paper read at the annual meeting of the Massachusetts Pharmaceutical Association "on the best methods to be pursued in a retail drugstore, in order to secure accuracy and dispatch."

bottle is so really attractive in appearance, that it can be used very generally, and it is wise to use it for washes, lotions and liniments.

Pharmacists have for many generations been complaining with good reason that the physician is deserving of censure because he does not write his prescription legibly.

Let us not be guilty of the same fault, and write labels illegibly. A neat, plainly written, distinct label on a package is itself a first-class advertisement for the store; customers notice it with great pleasure. Remember, in such writing that the flourish which indicates fancy penmanship has no place.

In closing these few words on methods of work, I would emphasize the two thoughts, *never be idle, be systematic in everything.*

CASE FOR PRESCRIPTIONS, BILLS, LETTERS ETC.

The most convenient case for preserving prescriptions, bills, letters, receipts and other papers (American Inventor) has been devised and just patented by Ferdinand G. Uhlich, of St. Louis, Mo. The design is to have a marking finger movable to any part of the case, so that the place from which any paper is taken can be marked and readily returned to the same place.

The box is made of any suitable material, and is covered by a lid hinged to it in any desirable manner. A rod extends from end to end of the box to give bearing to a marker. This is bent in an eye to receive the rod, the construction being such that the marker can be moved from end to end of the rod, and may be swung up or down at the free end upon the rod and eye as a hinge. A transverse partition near one end of the box forms a pocket for the marker to rest in when not in use.

CASE FOR PRESCRIPTIONS, ETC.

The ordinary manner of putting prescriptions and other papers away is to stick them on a file wire. This has a number of disadvantages, among which may be mentioned that in looking up any paper the others have to be slipped along the wire backward and forward, which wears them away at the perforation, and is liable to tear them at that point, and such manipulation tends to render the writing indistinct and unreadable. To remove a paper all that are above it must be removed from the file, which of course necessitates the work of refiling. Then the writing on the papers is subjected more or less to the fading action of the light, and the papers themselves to dust, flies, etc.

TABLET TRITURATES.

Tablet triturates was the subject of a paper read before the Kentucky Pharmaceutical Association by Mr. J. W. Fowler, of Louisville. These triturates, he states, originated in a desire to secure an officinal preparation having the advantages of facility, economy, accuracy and absorbability. The base was the same as that used by the homœopathists for their potencies and attenuations.

These triturates consist of certain medicines thoroughly triturated and made into a soluble paste by aid of milk sugar and alcohol or water. It is sometimes necessary to employ a more adhesive excipient than milk sugar, but in such cases the tablet should be readily soluble in the mouth, stomach or diffusible in a spoonful of water and thus given.

Tablet triturates include any medicine capable of being made into a not too tenacious paste, such as milk sugar. When fluid extracts are used one minim or less may be mixed with a compound of two grains or less of milk sugar or powdered acacia partially allowed to dry and then made into a paste with 85 per cent. alcohol. The apparatus used in preparing the tablets just described is a small bed-plate three-eighths of an inch in thickness, and five to seven inches square, made either of hard rubber or gold plated metal, with a perforated plate of similar dimensions, made adjustable and registering, and containing one hundred circular holes, more or less, as desired. The bed-plate is furnished with a number of small cylindrical projections, corresponding with and fitting into the perforations of the upper plate. At each corner of the bed-plate is also fitted a short rod for the purpose of keeping the upper plate in position, and at the same time insuring its proper working. The upper plate is adjusted for the tablet mass, in accordance with the size of the tablet required, by a simple device of a screw wedge or lever. The paste, when of a proper consistency, is then introduced into the perforations of the upper plate by spreading it over its surface by means of a spatula. By the wedge the plate is next forced downward upon the projections of the bed-plate, which in turn force the tablets out in perfect shape. They are then removed and allowed to dry. While carefulness is necessary as to formulæ and materials used, after the proper apparatus has been obtained they are not more difficult to make than gelatin coated pills.

There are several machines in use for making tablet triturates, the one described above is that of W. F. Ford, of New York. A less elaborate apparatus consists of a single plate of hard rubber containing as many holes of any dimension as may be desired, drilled as closely together as is consistent with proper strength. A more recent machine made by R. M. Sommers, Philadelphia, will, it is claimed, automatically and accurately weigh each tablet. It can be used with hand or steam power, and will turn out 150 tablets per minute.

Compressed tablets are largely adulterated with French chalk, introduced to facilitate the rapid action of the machines used in making them. French chalk is insoluble, and liable to cause gastric irritation. Hypodermic tablets are smaller than the tablet triturates, and are made from a different

base. Soda sulphate and sodium chloride combined are the bases generally adopted. Hypodermic solutions are always of uncertain strength, sometimes from the atmospheric changes in powders kept in the pocket, sometimes from evaporation and decomposition. Moreover, they are bulky, and bottles containing them are liable to be broken; the hypodermic tablets are therefore more available.

MENTHOL.

Menthol, according to S. Casket (Druggist Circular, June, 1886), has been known for the past century under the names of peppermint stearesceuse, stearoptene of peppermint, and peppermint camphor in Europe and America, while in Asia it has been known for centuries. The earliest systematic investigations were made upon American menthol since the invasion of Europe by cholera in 1830 led to an extensive importation of American peppermint oil.

The mentha piperita oil congeals at zero and readily yields peppermint camphor crystals easily isolated, and this fact led to their examination by Dumas. In 1832 he determined the composition, melting and boiling points, and described the properties and transposition products. With the exception of the melting and boiling points the results of Dumas were corroborated by Blanchett, Sell, Kane and Walter.

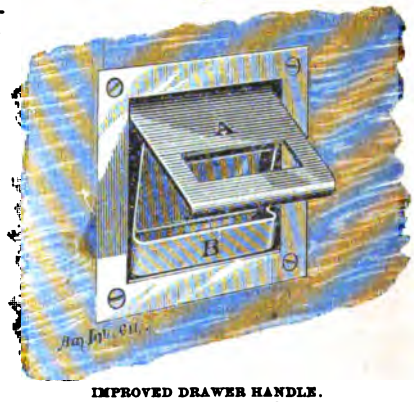
In 1861 peppermint camphor, the stearoptene of mentha piperita essential oil, arrived from Japan in large quantities in coarse earthenware protected by paper covers; it consisted of a mass of small, white, fragrant, prismatic crystals, resembling those of magnesia sulphate. Gorup-Besanez and Oppenheim at this time demonstrated the validity of the formula established by Dumas, and showed menthol to be a monatomic alcohol. Oppenheim called the substance menthylic alcohol or menthol.

For a long time it was in but light demand, but to the uses of menthol in headache travelers from time to time called attention, and long flat vials containing a dark green or amber colored fluid were sold as curiosities under the name of po-ho-yo, ho-ka, etc., as Japanese and Chinese headache cures. In 1871 the extensive use of the drug by the San Francisco Chinese led to Flückiger's examination of it. In 1874 further researches on the drug were made by Mackey, Bennett and Wright. A beautiful exhibit of menthol crystals at the Centennial Exhibition by Sachse & Co., of Leipzig, drew general attention to the drug.

In 1881 Dundas Dick successfully introduced the now celebrated "cone" into general use, and was followed by other makers. Menthol, menthylic alcohol, menthyl hydrate, peppermint camphor, peppermint stearoptene occurs in small, white, translucent, fragrant prismatic crystals. The American menthol is snow white, has a softened "peppermint odor" when pure. It has a melting point between 36.5° and 42°. The Japanese is generally semi-translucent from adherent terpene, has a camphoraceous odor tinctured with a slight peppermint odor; sometimes manipulated specimens have an odor of spearmint and pennyroyal. It has a melting point between 25° and 41°. The lower melting point of the Japanese is obviously due to the presence of terpene. The proper fusing point for absolute Mentha piperita menthol is 45°, and for absolute Mentha arvensis menthol is 42°. Menthol volatilizes at 210°; exposed to ordinary temperatures it is gradually dissipated, especially in a humid atmosphere. It is soluble in 890 times its weight of cold water, and 650 times its weight of boiling water. It is very soluble in ether, alcohol, carbon disulphide, fixed and volatile oils, chloroform, benzine, and petroleum. It liquifies with thymol, chloral and camphor. It combines well with fats and fat acids. Sulphurous anhydride, gaseous acid hydrochloric dissolve it readily, and upon evaporation leave the menthol unaltered. Concentrated acetic, butyric, formic, hydrochloric, nitric and sulphuric acids dissolve it readily, and on addition of alkalies it separates as an oily liquid, which soon assumes all the characteristics of menthol. Menthol placed upon the surface of slightly warmed water exhibits rotary movements. Nitric, chromic or sulphuric acid added in excess or suddenly, attack menthol rapidly and produce a tarry mass; sulphuric acid producing a polymerized menthane. Menthyl chloride, bromide and iodide result from heating menthol with concentrated hydrochloric acid, bromine or iodine to 120° in a closed tube; the bromides and iodides readily decompose. By heating menthol with concentrated acetic acid, menthyl acetate is produced; an oil boiling at 220° not decomposing, but decomposing on heating with alcoholic soda, resulting in menthol and soda acetate. It is therefore, obvious that menthol belongs to the alcohol series.

IMPROVED DRAWER HANDLE.

An invention, by G. P. Rush, of Minden, Neb., for handles for drawers (Am. Inventor) is designed to economize space and obviate the tearing of clothes and injury to persons. It is constructed as follows: A flanged metal casing is snugly fitted and secured by mortising into the drawer, or other article on which the handle is to be attached, having the flanges flush with the face of the article. Within the casing is pivoted or journaled the handle A, which, when the lower portion is thrown outward, furnishes a ready means for operating the drawer, and when not in use hangs flush with the front face; the flange on the upper edge of the handle forms a stop, which, coming in contact with the rear of the casing, determines the extent to which the handle may be thrown outward. The handle may be slotted and provided with flanges adapted to receive cards or labels with the name of the article contained in the particular drawer, or any other desired inscription. Within the same casing, and below the handle, is pivoted or journaled the lever B, provided with the arms, extending upwardly under the handle A, whereby the handle is thrown out and ready to be grasped by simply pressing on the lower edge of the lever B.



IMPROVED DRAWER HANDLE.

Editorial.

At the recent meeting of the Massachusetts State Pharmaceutical Association the question arose, but was left undecided, as to the responsibility of pharmacists for the purity of drugs dispensed from the original packages of the manufacturer. In the case of Thomas vs. Winchester (2d Selden's Reports N. Y. Court of Appeals, 397), a husband had been sold extract of belladonna, for his wife's use, in lieu of the dandelion extract asked for, by a pharmacist who took it from an original package marked extract of dandelion by the wholesale druggist, Mr. Winchester. The court decided that it was the duty of the wholesaler to avoid the creation of danger by the exercise of greater caution, and the exercise of that caution was not merely a duty by the immediate vendee, whose own life was not immediately endangered. It is clear from this decision that, while the wholesaler is directly responsible for the purity of goods dispensed from original packages, the retailer is not free from responsibility, and this is further shown by the case of Semple vs. Hallencamp (Elwell's Medical Jurisprudence, chap. XII.), wherein it was decided that there was no good reason why a vendor of drugs should in his business be entitled to a relaxation of the rule which holds the vendor of provisions responsible for their purity and wholesomeness. It is obvious from these decisions that, as was decided in the Hallencamp case, the retail pharmacist who could not clearly place the responsibility on the wholesaler might be mulcted in such damages as a jury chose to impose. Self-protection should therefore constrain the retail pharmacist to take the utmost precautions in regard to the original packages from which prescriptions are dispensed.

The Committee on Legislation of the Illinois Pharmaceutical Association proposes to ask the next Illinois General Assembly to amend the pharmacy act in the following particulars:

1st. To pay the expenses of the State Board of Pharmacy and thus do away with the annual renewal registration fee.

2d. To abolish diploma distinctions, so that all persons asking registration in future will be compelled to demonstrate their ability as practical pharmacists.

3d. To so amend the pharmacy law that none but registered pharmacists shall be allowed to sell any kind of drugs, medicines or poisons.

4th. To give registered assistants the privilege of registering as pharmacists.

5th. To exempt pharmacists from jury duty.

The first request will do much to popularize the bill, and is so manifestly just that the Legislature cannot consistently refuse to indorse it. If the law is in the interest of the public, the public should pay for its enforcement; if in the interests of the druggists, as has been maintained, then the Legislature had no right to pass it. Consistency demands, therefore, a sufficient appropriation to support its provisions with vigor and dignity.

The principle embodied in the second clause was first given utterance by the WESTERN DRUGGIST several years since, and requires no further comment at this time.

The third clause is intended, we presume, to restrict the sale of patent and proprietary as well as all other kinds of medicines to druggists. This restriction will be in harmony with the spirit of the act in the event only of its being accompanied with professional and civil responsibility in the sale of patent or proprietary medicines. In other words if no person other than a registered pharmacist is to be adjudged competent to 'dispense" patent medicines, then such competency, upon which the exclusive privilege is solely predicated, must be assumed to act as a protection to the public from dangerous, deceptive, or fraudulent remedies. Are druggists willing to assume responsibility for the quality and honesty of the patent medicines they sell? If not, it were worse than a waste of time to demand a monopoly of the trade. We are aware that this view is with many druggists exceedingly unpopular, but the logic of the situation might as well be frankly acknowledged at the start before it is attended with humiliation and defea

The clause relating to the registration of assistant pharmacists proposes an extraordinary and gratuitous concession opposed to the spirit of the entire law.

The final clause is so obviously in accord with common justice as recognized in other legislation of a similar character that its acceptance by a fair-minded legislature is a foregone conclusion.

We suggest that before the Committee asks for pecuniary assistance from druggists to defray the legitimate and necessary expenses incident to the work proposed, a draft of a bill be prepared, covering the desired amendments, that it may be seen precisely what the legislature will be asked to do, and what druggists will be asked to indorse.

An evil of which the general medical practitioner complains greatly, but concerning which the retail pharmacist says very little, although he is as seriously imposed upon, is the rapid increase of free dispensaries in the various larger towns. Theoretically the dispensers of charity, practically they are but an additional means of pauperizing that large class of persons who, despite ample means, delight in getting something for nothing, particularly if that something be medical advice and medicine. Through the desire of the average specialist in medicine to distinguish himself as a professor somewhere or a consultant to something, dispensaries are multiplied through society, church and college influence, and the pharmacist finds, like the general practitioner in medicine, that the free dispensary medication and attendance are preferred by people abundantly able to pay. Reliable statistics show that at least one-third of the persons receiving dispensary aid are abundantly able to pay for both medical advice and medicine, while at least one-half of the remainder are well able to pay for medicine. The subject requires agitation by the pharmacist, who has been so harassed by other seemingly greater evils as to pay too little attention to this by no means minor one. We do not here refer to the "free dispensaries" where medical advice is ostensibly gratis, but where, through collusion with some unscrupulous druggist, the medicine purchased is made to pay an exorbitant prescription fee. These call rather for prompt action by the public prosecuting attorney than by deliberative societies.

While cocaine is no doubt, like all neurotics, capable of being made the basis of a "habit," it must be admitted that the evidence in favor of the existence of such a habit is not very convincing. Every case so far reported has been that of a physician addicted to the abuse of opium, alcohol, and riotous living. To charge cocaine with causing the extravagances of an alcoholist, an opium habitué or lunatic is anything but a scientific procedure, yet, in the present

furore, which has seized the medical profession and the press for reporting cases of cocaine habit, this is frequently done. It is to be hoped that some time this question will be studied in a scientific manner for so far only the wildest conjectures have been given as undeniable facts.

Every conscientious pharmacist feels deeply the responsibility which the opium habit has placed upon the profession. The attempts to regulate the use of alcohol have undeniably resulted in an increase in the number of opium habitués. The legal measures adopted to regulate the opium habit are of a nature calculated to bring in revenue to the police justice and his clerk, rather than to decrease the habit. That most of the opium is bought in the drugstores cannot be denied, although there is no doubt that the Chinese smuggle an enormous quantity across the Pacific. Some measures should be taken to regulate the sale of the drug. A law should be enacted compelling the registration of the name, date and reason for every opium sale, whether upon a prescription or otherwise, and a monthly report of such sales should be made to the Board of Pharmacy. By this means data could be obtained which would serve as a basis for preventive legislation. The growth of the opium-habit is largely due to physicians' prescriptions of opium to hypochondriacs and hysterical women. Many a physician called to account for such prescription, has urged as an excuse that if he did not prescribe morphine his rival would, and the patient soon learns to prescribe the drug for him or herself. Preventive legislation must therefore deal with this element, and an excellent basis for it would be found in reports of the kind already mentioned. No pharmacist who has the honor of his profession at heart could object to such a law.

The laudable practice which has quietly come into existence in some States, of Pharmaceutical and Medical Associations exchanging delegates, seems destined to settle many vexed questions by bringing about a better understanding of the mutual relations of the two professions. The counter-prescribing question, the prescription duplication question, and that relating to the correction of physicians' errors by pharmacists, can only be settled to mutual satisfaction in this way. A fairer understanding of the question of pharmaceutical education would soon destroy that idea of imaginary medical dignity, which has so frequently interfered with the passage of pharmacy laws. The subject should be discussed by the local pharmaceutical associations as a preparative for action by the State Associations. By such a mutual interchange of views the medical superstitions, that load down the drug shelves with preparations of evanescent fame, might be in great measure removed.

When Mr. Butterworth described o'eomargarine in Congress the other day as a 'corsair on the sea of commerce" he properly characterized a gigantic and rapacious fraud. The bogus butter exists solely because it is a fraud; it has risen to the dignity of an "industry" wholly through false pretensions, and through masquerading in the guise of a household necessity; it has fought every law designed to strip it of its swindling disguise and compel it to sta d forth in its true garb; failing in this, it has shirked and skulked and bribed in the desperate hope of nullifying the legislative intent. It is because of this lawless and plundering policy—a policy guided always by a determination to call things by their wrong names, to sell a swindle for an honest article, to cover the face of a bastard progeny with the likeness of purity and honesty—that Congress has at last been appealed to, and in its popular branch has already acted—if with severity, simply because severity only is adequate to the emergency. To taint the food of a nation and to imperil one of its greatest industries is no common crime. The wholesomeness of the stuff is still in controversy, though as regards a number of varieties its unclean and villainous character is generally conceded. That question we are not now discussing, but simply whether an "industry" which exists and can exist solely by virtue of systematic fraud should not be summarily suppressed.

In the little village of Köping, in Sweden, May 21 last, was celebrated the 100th anniversary of the death of Carl Wilhelm Scheele, the greatest pharmacist of Sweden, and alike honored over the civilized world. In this little place Scheele for some thirteen years conducted an unpretentious pharmacy while making discoveries of the greatest importance to the world and to science, and in which he finished his career at the early age of forty-four. The entire community honored the dead scientist by public services, orations by distinguished professors from the University of Upsala and the Royal Institute of Sciences at Stockholm. A banquet was given in honor of the occasion, and to the poor in whose memory the character of the great dead was in such high estimation a repast was tendered. Sympathetic messages were received from scientific institutions everywhere, the most interesting being a telegram from Chevreul and Berthelot, the former being now nearly 100 years of age, having been born only a short time after Scheele's death.

One of the most flagrant cases of proposed adulteration happened recently in connection with castor oil. A circular has been sent to the wholesale drug trade quite extensively, it is said, offering oil for adulterating castor oil without fear of detection. It is claimed for it that it possesses all the advantages of castor oil, and when taken internally has no effect other than as a slight sedative, which medical talent proclaims inocuous. It is offered at the price of 62 cents a gallon, and, despite the claim to the contrary, there is evidence to believe it may be detected by its comparative insolubility in alcohol. We shall be indebted for any information in connection with the subject which may be in the possession of our readers.

The discussion of the Am Emde case in the New Jersey Pharmaceutical Association brought out the fact that preoccupation is the prime cause of pharmaceutical accidents The remedies proposed for the preoccupation were eminently practical. To immediately check the preoccupation it was proposed to have the poison closet a chaos, so that the necessity of looking for articles would fix the mind on the prescription. To remove the pharmacist's tendency to preoccupation a little more relaxation from business was proposed. Though both these remedies consume time, they would enormously diminish the chance of accident.

The Paris School of Pharmacy has been closed temporarily by the Minister of Public Instruction The riotous proceedings recently inaugurated by the students, and directed against the professor in botany, M. Chaten, culminated in an official inquiry. Of the charges brought against him the teacher was exonerated, save one, which involved neglect in caring for a certain monument. Several students have been found guilty of misconduct, and been suspended accordingly.

Queries and Formulæ.

WE cordially invite queries for this department on any subject of pharmaceutical interest. Correspondents will give their name and address, but initials only will be printed when desired. It is especially requested that they furnish such information as they may already possess on the subject embraced in their queries. Queries cannot be answered by letter. Communications for this department should be addressed to Editor of the WESTERN DRUGGIST, 69 Dearborn Street, Chicago.

120. CHERRY LAUREL WATER.—Dr. B. E. Terrill (Muir, Mich.): Cherry laurel water is officinal in the British Pharmacopœia, and is made by distilling 16 ounces of fresh cherry laurel leaves, after maceration, with 48 ounces of water until 20 fluid ounces have been obtained. It is a very unreliable preparation, and has long since been discarded for dilute hydrocyanic acid as a remedy. As a flavoring agent it is much more dangerous than bitter almond water, owing to the variable quantities of hydrocyanic acid it contains. There seems to be no excuse for retaining this preparation either in medical or domestic practice. An artificial water is directed to be prepared from oil of bitter almond, acid hydrocyanic diluted, alcohol and water.

121. INSOLUBILITY OF MORPHINE SULPHATE.—C. R. M. (Quaker City, Ohio) desires to be informed as to the cause of not obtaining a clear solution of morphine sulphate in water. The morphine contained in each of the ⅛-ounce vials from an ounce package behaved similarly, though heat was used, but another lot of the same manufacture procured from a different source was found to dissolve perfectly. Morphine contains about 6 per cent. of water of crystallization, and requires about 20 per cent. of sulphuric acid to form the sulphate. The salt may readily lose a portion of its water of crystallization either by exposure to the air or by the powerful pressure exerted upon it at the close of the process of manufacture. This is no doubt the cause of the partial insolubility. It is advisable also to determine whether or not the specimen answers the official tests for purity; although obtained from the same source the two lots may be quite different.

122. TEREBINTHINATE OIL OF LEMON.—S. Crawford & Co. (Galena, Ill) asks how the terebinthinate odor may be removed from oil of lemon which has been kept for some time. In this case prevention is better than cure. All essential oils must be well protected from the action of light and atmosphere by being kept in small well-filled vials in a dark, cool place, preferably a cellar. When a larger quantity of oils is purchased, especially of lemon and orange, all but a little needed for immediate use should be diluted with about 2 per cent. of alcohol, filled in smaller bottles and put away. Without these precautions the oil mentioned will soon become acid, acquire a deeper color and a nauseous, terebinthinate odor and taste. When the oil has undergone this change and becomes oxidized, or resinified so-called, it should be rejected for medicinal use. For domestic purposes it may be improved some by redistilling with water, or it may be rejuvenated by the following process, devised by Curieux: Shake the oil in a well-stoppered bottle for 30 to 60 minutes with five to ten times its volume of a mixture consisting of equal parts of powdered borax, purified animal charcoal and water; let stand in a cold and dark place, when the oil may be decanted or filtered through glasswool.

123. PRESCRIPTION QUERY.—D. W. M. (Benton Harbor, Mich.) desires comment upon the following prescription:

℞ Cinchonidine sulph.....3ii
Acid salicylic 3iii
Sodii bicarbonatis.....q. s.
Pepsin scale .....gr. xx
Spirit frumenti.....℥iii
Glycerin q. s. ft.....℥viii
Mix.

The dispensing of the mixture would be much facilitated by the addition of some water, in which the sodium bicarbonate should be dissolved before the acid is added. The cinchonidine will not dissolve in the remaining solvent, but should be mixed with it and then added to the solution of the sodium salicylate. The mixture is rather inelegant, and not a pharmaceutical one, but if the ingredients be mixed "according to art" and water is substituted for a portion of the glycerin, which in this case is perfectly allowable, nothing save an unsightly compound will be the result.

124. OINTMENT OLEATE MERCURY 10 PER CENT.—L. T. M. (Hudson, Mich.) desires a formula for 10 per cent. *ointment* of oleate of mercury. The only form of oleate of mercury officinal is a 10 per cent. solution in oleic acid. A more concentrated oleate of 20 per cent. strength may be prepared by the same method of combining yellow oxide of mercury with oleic acid, but it is not very permanent and could only be reduced one-half, thus not assuming ointment consistence. The only way in which an *ointment* can be prepared is from the oleate direct. Mercuric oleate is prepared by double decomposition between mercuric chloride (corr. sublim.) and sodium oleate (castile soap). A clear solution of mercuric chloride 1 ounce in 32 ounces of water is poured very gradually into a hot solution of white castile soap (1 pound to the gallon), under constant agitation, until upon being heated no further precipitation takes place; when cool the mercuric oleate, which has sunk to the bottom, is carefully washed with warm water until perfectly free from free chloride. It is of ointment consistence, and, after having been freed from water, should be preserved in tightly-stoppered glass or porcelain jars. From this the ointment is prepared:

Take of
Oleate mercury.....10.00
Ointment.....90.00
Mix.

The use of petrolatum is not to be recommended, owing to its non-absorbing qualities; wool-fat would be preferable.

125. COLORING FOR SPIRIT OF LEMON.—W. L. C. (Stephentown, N. Y.) desires a better coloring than curcuma for essence of lemon. The latter fades upon exposure to the light, and the peel is apt to impart a somewhat bitter terebinthinate taste to the essence when kept for a longer period. We know of no substance better adapted for imparting a natural color to the essence, and an agreeable odor as well, as the yellow of the lemon-rind. The fresh-grated rind should not be allowed to macerate in the alcoholic solution more than twenty-four hours, then the mixture to be filtered. With these precautions the terebinthinate odor will not be caused by the rind, but, if appearing at all, must be owing to the oil. A tincture of anatto seed imparts a fine golden yellow color to alcoholic solutions; it may be tried.

126. ELIXIR PEPSIN AND BISMUTH.—In the N. Y. & B. formula great difficulty is experienced in dissolving the pepsin. In other formulas also wherein saccharated pepsin is directed to be employed the pepsin cannot be dissolved. How may this be remedied? By dissolving the pepsin in glycerin, thus avoiding the use of acids and thereby preventing the precipitation of the bismuth. With saccharated pepsin the glycerin dissolves the pepsin, but leaves the sugar of milk. The following is the formula presented to the Illinois Pharmaceutical Association:

ELIXIR PEPSIN AND BISMUTH.

Sacch. pepsin	U. S. grains 256
Glycerin	fl oz. 3
Bismuth ammon-citrate	grains 256
Aromatic spirit	fl. oz. 2
Syrup	" 4
Water sufficient	" 16

Dissolve the pepsin in the glycerin by trituration and maceration in a mortar for twelve hours; mix with the syrup and add the aromatic spirit. To this solution add the bismuth salt, first dissolved in 6 fluid ounces of water, with the addition of ammonia if necessary. Let stand, filter, and add water sufficient to make 1 pint. Color with cudbear and caramel. This elixir contains 2 grains each of pepsin and bismuth ammonia-citrate to the fluid dram.

128. ELIXIR PEPSIN, BISMUTH, IRON, QUININE AND STRYCHNINE.—P. G. P. (Valley City, Col.): Owing to the number of ingredients this elixir is usually of only one-half the strength of the elixirs containing two or three of these. For example, elixir pepsin and bismuth contains 2 grains of each in 1 fluid dram, but this compound elixir contains only 1 grain of each to the fluid dram. The proportion of quinine, iron and strychnine is in the same ratio compared to that elixir. The compound may therefore be readily prepared by simply mixing equal parts of elixir pepsin and bismuth and elixir quinine, iron and strychnine. The elixirs must be neutral, and should be of as nearly the same alcoholic strength as possible. The elixir pepsin and bismuth formula given elsewhere is well adapted for this number.

129. DISPENSING DIFFICULTY.—O. P. G. (Battle Creek, Iowa) sends the following prescription, which exploded shortly after being dispensed:

Fl. ext. pulsatilla	gtt. xv
" digitalis	f℥i
Liq. potassii arsenit	gttx
Ammonii carbonat	℥ii
Syr. ferri chloridi	q. s. ad. ℥iv

The trouble lies with the "syr. ferri chloridi." There is no authentic formula for this preparation, and therefore almost any strength may be dispensed. In some hospitals the syrup has been used 10 minims of the tincture to the fluid ounce of syrup, but in most localities no such preparation is known. The physician prescribing it is at fault, unless the formula is known so that the results be uniform, but in any event it is much more safe to specify the quantity of tincture of iron chloride and the quantity of syrup. In this case it would have averted any misunderstanding and probably also then called attention to the fact that some water should be added to make the mixture less viscid, so that the gas liberated from the ammonium carbonate by the acid tincture may become disengaged. This being retarded by the viscosity of the mixture caused the explosion. Unless the formula for an unofficinal preparation is well known, the *strength* of it should always be specified. In no other way can the druggist be held responsible.

130. PRESCRIPTION QUERY.—O. Terry (Honeoye, N. Y.) sends the following, desiring to know why the mixture should turn black upon standing a few days:

℞ Ammon carb	gr. xxx
Acid carbol. cryst	" xv
Aqua, q. s	℥iii

Mix.

The carbolic acid was "cut" with a small quantity of pure glycerin. We do not know the cause of the discoloration, unless it be due to empyreumatic matter in the ammonium carbonate, which is frequently very impure.

131. METRIC WEIGHTS, ETC.—J. H. Stevens (Monroe N. C.): We cannot here give the equivalents in avoirdupois or troy weights and fluid measures of the formulas referred to (p. 157, May). In the same number of the W. D., "Clerk's Department," is given rules for transposing metric quantities into avoirdupois and troy, and vice versa. Wherever practicable we avoid using the metric system or parts by weight. St. John's bread, also called siliqua dulcis, may be procured from any wholesale dealer.

132. PEACOCK'S BROMIDES.—E. A. S. (Kenesaw, Neb.) in answer to a query last month, sends the following formula taken from the "Formulary:"

Take of

Potassium and sodium bromides	each	grains	640
Ammonium	"	"	384
Calcium	"	"	192
Lithium	"	"	64
Extract vanilla		fl. oz.	1
Sugar		av. oz.	10
Water, sufficient to make		fl. oz.	16

Dissolve the salts in 8 ounces of water, and the extract mixed in the liquid filtered; dissolve the sugar without heat and strain.

133. LOVE-POWDER.—J. H. Ferris (Carthage, Dak.) inquires if there is such a thing as "love powder," and how it is to be used. Yes, love powder is a standard article, and is said to be a powerful remedy in the hands of designing maids. Its composition is of little consequence, except that it be red—a deep bright red. As to the mode of administration, the most approved way is to direct that the maid slip the powder into a cup of tea or coffee without the knowledge of the young man, who must drink it without the slightest suspicion. The powder is made of chalk colored red with carmine.

The third item in the prescription sent is written quite plainly, at least sufficiently so to be easily understood. It is rhus aromatica, "stinking sumach," a drug introduced some years ago. The quantities 15.000, etc., are those known as metric, though usually written with two 0 decimals only. For explanation of these see reply to query No. 131.

Messrs. H. & W. K. (Berrien Springs, Mich.) furnish the following:

134. MAGIC CORN SALVE.—Compare with Hansen's the following:

℞ Acid salicylic	grains 30
Petrolatum	ounce 1

HEADACHE CURE.—Compare with Sawyer's the following:

℞ Sodium salicylate.

135. KENDALL'S SPAVIN CURE.—Paul Bilden (Northwood, Dak.): The formula for the above was published in this journal, page 39, '84. "A New Idea" gives the following as furnishing an article very similar to the proprietary compound:

Take of

Oil rosemary	dr. 1	Oil turpentine	fl. oz. 4
Iodine	drs. 5	Water	" 5
Camphor	" 21	Alcohol	" 54

Mix.

186. INK ERASER.—H. A. P. (South Bend, Ind.) desires a formula for an ink eraser which will not destroy the texture of the paper. The following are mostly used: A saturated solution of chlorinated lime in water, to which has been added a few drops of hcl. to each ounce; a solution of hydrochloric acid, 1 part to 8 parts of hot water. Fluoride of potassium has also been highly recommended. With recent stains a cream made of cream of tartar and water is said to be effectual.

HEAVES.—This is a disease of the breathing apparatus of the horse and other solipeds. In some instances it is due to indigestion and over-feeding, or to excessive work too soon after feeding. In this case it is curable by proper attention to diet, to the amount of water given, etc. If not properly treated, it is apt to pass into either of the two asthmatic varieties, one of which is curable and the other not, and the horse may become "broken winded." Conium, belladonna, stramonium or rosin weed will be found of much value in the treatment of these latter conditions.

137. TO CLEAN MARBLE MONUMENTS.—C. H. Chapman (North Fairfield, O.): The following process is recommended: Wash the surface with a mixture of finely powdered pumice-stone and vinegar, and leave it for several hours; then brush it hard and wash it clean. When dry, rub with whiting and wash-leather. Oxalic and muriatic acids are also used, but they will injure the polish of the marble.

138. LAUNDRY BLUING LIQUID.—E. J. (Pocomoke, Ill.) desires a formula for a cheap bluing:

Take of

Prussian blue	ounces 6
Oxalic acid	" 1

Water sufficient.

Dissolve the oxalic acid in a little water, add the Prussian blue, and finally sufficient water to make it the desired strength.

139. NOYES' SATIVA.—G. R. Spreckelmeyer (Truxton, Mo.) sends the old familiar receipt of "Halish Sativa." Mr. S. is correct in supposing it a humbug. It has been referred to a number of times in this journal.

140. SYZYGIUM JAMBOLANUM.—J. G. Bodenschatz (Lemont, Ill.): This new remedy was noticed in this department for March. It is the seed of an East Indian plant, and we believe it can be obtained from dealers generally.

141. SYRUP YERBA SANTA.—Stokes & Foster (Mansfield, La.) desire the "best" formula for preparing a syrup of yerba santa, for disguising the bitter taste of quinine. Many different formulas have been published from time to time. One of the more recent, by J. D. A. Harz (Am. Druggist, page 23, '86), may seem worthy of a trial. It is substantially as follows: Twenty-five ounces of yerba santa, in moderately fine powder, are exhausted with a menstruum of one volume of alcohol and two of water. The alcohol is recovered by distillation, and the extract evaporated to 25 fluid ounces. Mix intimately 300 minims oil of orange with 3 ounces of calcium phosphate in a mortar; add gradually 3 fluid ounces alcohol, then also very gradually 85 fluid ounces of water. To the mixture, transferred to a bottle, add 150 minims of chloroform; shake the contents, filter, and in the filtered liquid dissolve 140 ounces of sugar. Mix this syrup with the fluid extract, in which the resinous matter has been deposited, and finally enough water to make 200 fluid ounces. This syrup has been called *Syrupus corrigens*, and is said to be very satisfactory. Syrup of yerba santa may also be prepared according to a process formerly officinal for syrup tolu, and also by the process at present officinal for this syrup.

SUBSTITUTION.

(Editor Western Druggist.)

In reply to the request of E. E. G. for opinions of druggists regarding the prescription query in May, I would say I think S. Grimes made three errors in filling the prescription:

1. No druggist has the right to change the dose of any article in a prescription unless it is a dangerous dose. I think this cannot be questioned, and I know that the dose of quinine given is not dangerous, even to be continued for the length of time given. The fact that ditto marks were used for the quinine shows conclusively that the writer wanted ounces and not drachms. As for getting a dangerous dose of quinine at the bottom, a shake label would do away with any danger, if any could exist.

2. The quinine should not have been dissolved. A quinine prescription containing licorice should be made a mixture, not a solution, as an acid will precipitate the glycyrrhizin in the licorice, thus making it neutral and useless as it is added to cover the taste of the quinine. The elixir of calisaya, iron and strychnia must have been poorly made to be acid enough to dissolve even part of the quinine, or precipitate the glycyrrhizin.

3. As the prescription should be a mixture it was of course wrong to filter it.

In filling the prescription the quinine should be rubbed in a mortar with the fluids, and a shake label put on the bottle.

The question of price should not be considered if a prescription is put up. If the patient can not afford to have it dispensed correctly, it should not be dispensed at all.

J. S. J., PH. C.

HUDSON, WIS., June 25, 1886.

ELIXIR QUININE, FERRI ET STRYCH. PYROPHOS.

(Editor Western Druggist.)

I wish to add one more to the already long list of formulas for the old "Druggist's Terror," Elixir Quininæ Ferri et Strychninæ Pyrophos.

Hardly a formula has appeared for years that I have not tried, besides experimenting with my own, having used quinine alkaloid, sulphate, chloride, etc. At one time I thought I had found the desired combination in the chloride, but after standing a few weeks it too, threw down an unsightly bulky precipitate.

My experiments led me to believe that the fault lay in the insolubility of the salt in the menstruum, and to seek for the most soluble.

I think I have found it in the hypophosphite which I form by decomposing the sulphate with calcic hypophosphite. The following is my formula:

℞ Quiniæ sulph	grains	140
Calcii hypophos	"	28
Strychniæ	"	2
Sp. vini rect	fl. oz.	4
Sp. aurantii	fl. dr.	4
Syr. simp	fl. oz.	6
Ferri pyrophos	grains	256
Aq. ammonia		q. s.
Aq. destil. ad	fl. oz.	16

Dissolve the iron salt in 4 fl. oz. water and mix with the syrup and spirits of orange.

Put the quinine and strychnine in a bottle, pour on the alcohol and heat on a water bath until dissolved. Dissolve the calcium hypophos in 4 fl. oz. water with heat; pour into the quinine mixture and let stand until cold; filter, to remove the precipitated calcium sulphate, wash the filter with enough alcohol to make with the filtrate 5 fl. oz. Mix with the iron mixture and carefully neutralize with ammonia, and add water to bring the measure up to 1 pint. If on standing a precipitate forms, a little alcohol added will clear it up.

This gives a beautiful clear green mixture, tinged with yellow, and is equal in appearance to Wyeth's. I have before me a sample made Feb. 3, and it is as clear as the day it was made. Of course it can be made directly from the hypophosphite of quinine by dissolving 128 grs. with the strychnine in alcohol as before and leaving out the hypophos, of lime, but the cost is so high for that salt that the method of double decomposition is very much cheaper. With quinine at 85 cents this elixir costs 56 cents per pint.

BARBED WIRE WOUNDS.

In answer to query "68 N. B." in W. D. for April, I give formula for a liniment much used here for cuts from barbed wire. For healing cuts and flesh wounds of all kinds it has no equal and flies will not trouble a sore where it is used:

℞ Raw linseed oil	fl. ounces	16
Saltpetre, powd	"	1
Sugar lead "	"	1
Sulphuric acid	"	1
Carbolic acid	"	½

Mix the oil with the saltpetre and sugar of lead and slowly add sulphuric acid, stirring constantly. When cold pour off from the dregs and add the carbolic acid. Apply with a feather twice daily. Do not wash the sore at all.

To show how progressive some medical men are, last summer an "old style" doctor said to me: "Have you any such thing as *Hydrated* Chloral? I have been reading considerable about it, and would like to try it." About equal to this was the inquiry of a doctor, of a druggist in Sacramento, for "that new remedy lately introduced, Bromide of Potash."

With such evidence before us can we doubt that "de sun do move"? W. W. GRANGER.

MODESTO, CAL., June, '86.

[The formula for Elixir quinine, iron and strychnine pyrophosphate is very similar to that proposed by Rother, published in this journal for January, p. 18, '86.—ED. W. D.]

ANOTHER FRAUD.

(Editor Western Druggist.)

The following shows that "The Frauds" are not all dead yet. This is something so altogether different from anything we have yet seen, that we could not refrain from giving it more light. It is from Dr. Franklin Hart, 192 Broadway, N. Y.:

℞. Spiritus frumentis	ounces	8
Columbo root	"	1
Caicaro flower	"	1½
Podocue bark	"	1¼
Cummanoma pulp	drachms	¼
Syrupi	ounce	1

MS.

It is a guaranteed cure for nervous debility, loss of appetite, consumption and kindred complaints, and can be filled at all first class drugstores. But if there are no *first class* drugstores in the place, he will fill it for the modest sum of $2.00. W. C. W.

PLATTSMOUTH, NEB., July 1, '86.

Formulas for Hair Preparations.*

MACASSAR POMADE.

Pomade base	grams	1,000
Anchusin	"	15
Odorous mixture	"	8

OX-MARROW POMADE.

Pomade base	grams	1,000
Odoriferous mixture	"	5
Tinct. of anatto	"	½

This pomade appears well in milk white glass jars.

POMADE BASE. (1.)

Lard	grams	725	Borax	grams	10
White wax	"	75	Water	"	200

Fuse the lard and wax together, allow it to cool and when nearly congealing stir it briskly until quite stiff; dissolve the borax in the water and add it gradually to the above with constant stirring until thoroughly incorporated.

POMADE BASE. (2.)

Lard	grams	100	Borax	grams	10
Cocoanut oil	"	400	Water	"	400
White wax	"	100			

Prepared as above.

CRYSTAL POMADE.

Castor oil	grams	500
Olive oil	"	380
Spermaceti	"	120
Oil of jasmine	"	20
Oils of rose, bergamot, each	min.	10
Oils of neroli, geranium, each	"	2
Oil of orris	"	1
Cumarin	grain	⅓
Heliotropin	"	1⅓

Fuse the first three ingredients together and add the perfume before it has congealed.

The pomade appears to best advantage in transparent glass jars and in order that it may appear as coarsely crystalline as possible, allow the congealing to go on as slowly as possible by placing the filled jars in warm water.

ARSENIC BROMIDE IN DIABETES.—Dr. N. S. Davis (Journal of the American Medical Association) has found three drop dose of arsenic bromide thrice daily of value in diabetes.

ZINC OINTMENT FOR VARICOSE ULCER.—Unna (Journal de Médecin de Paris) recommends in varicose ulcers the following: Zinc oxide, gelatin, of each two and a half drachms, glycerin and water each one and a third ounces. The gelatin should be added to three-fourths the quantity of water and glycerin, and when thoroughly mixed then the zinc oxide, thoroughly mixed with the remainder of the glycerin, should be added.

CASCARA SAGRADA IN DYSPEPSIA.—Dr. Tschelzon (Centrlbl. für die gesammte Therap.) finds cascara sagrada causes an increased secretion of gastric juice, bile and pancreatic juice, and hence is useful in most forms of dyspepsia.

MYRTOL IN DYSPEPSIA.—Linarix (British Medical Journal April 10, 1886) has found myrtol in two and a half grain doses to stimulate digestion when administered before meals

Correspondence.

We invite brief letters for this department upon any subject of interest to the pharmacist or druggist.

The publication of communications implies no indorsement by us of their contents.

Names of correspondents will not be printed if so requested.

Address matter for this department to "Editor of the WESTERN DRUGGIST, 69 Dearborn street." To be in season for the next issue, letters should reach us not later than the 5th of the month.

"OH, WHERE ARE THE FRIENDS OF MY YOUTH?"

This is a question that may be properly asked by the old-line, old style apothecary when he institutes comparisons in his calling with things as they now are and what they used to be.

When he thinks of the little room back of the store that answered to him as his storehouse and laboratory,—thinks of the long line of jars, bottles and jugs labeled with contents and exact dates at which such contents were set to macerate; the long line of packages labeled and storing his store of flores, folia, cortex and radix, most of which were gathered and prepared by himself, and hears in his mind's ear the clang of the pestle in the brass or iron mortar as it rang out the story of his occupation to his neighbors, can he help sighing for the days that are past, and wonder whether things to-day are really better than they were? Don't know.

The old-time apothecary is growing to be a reminiscence of the past, and the generation springing up into his place looks strange to him. The clang of the mortar has died away. The apprentice and pestle are on better terms than they used to be, coming but rarely into each other's presence The artistic doing-up of packages, folding, and tying of gallipots are among the lost arts. Extracts, tinctures, syrups, elixirs, ointments, etc., have gone to *factories* and to the laboratories of patent medicine speculators. There is nothing left of the apothecary's art but a storeroom for preparations, "*cheaper and more elegant*" than he can make them. Mr. John Smith, the apothecary, is supplanted by G. Simplicitas Smith, Ph. D., M. B., who is *not* an apothecary but a "*Pharmacist*," who won the grand star-spangled banner gold medal at the Rushhothouse College of Pharmacy in recognition of distinguished services in discovering a new alkaloid in pumpkin seed, called cucurbitine (it is paralyzed in the formula $H_2N_3O_6$), and the further important scientific fact, that the volumetric density of the aromatic principles or flatus of a bean is not, as estimated by the renowned professor of chemistry, Ivan Zrgnomtchsky of St. Petersburg, equal to 1-27,000,000,000,000 millimeters, but by actual computation 10-27,000,000,000,000 millimeters and composed of exactly 200,000,000 molecules and 700,000,000 triangular atoms, these uniting by chemical affinity into a heterogeneous gas, which by friction of atoms and molecules evolve the product so much complained about in loggers' camps.

Of course, G. Simp. Smith the pharmacist, never learned, to wash a bottle, don't know how to clean a mortar, can't dust a showcase, nor take it kindly when a customer wants magnesia sulphuricum and vulgarly asks for salts. With all of his profound research for the hidden elements and mysterious elements of the faba vulgaris, G. Simplicitas Smith Ph. D., M. B. still finds sufficient leisure to attend to the personal attractions of his distinguished person. He parts his hair as carefully in the middle as he does the molecules and atoms of the bean. His shirt front is an advertisement ablaze with the glory of Heinrichs' universal shirt polish and Moses Loewenthal's diamond repository. His kerchief is saturated with all the odors the pharmacy holds in stock, and when *he looks down* on the old-fashioned apothecary, is it to be wondered at that the latter fades out of sight like an ancient grease-spot that cuts no figure in the economy of the nineteenth century?

But seriously, the point I desire to make is, that the upshot of this pharmacy dudeism craze is entirely uncalled for by the practicable common-sense tendency of our day. Our profession as whilom apothecaries is rapidly passing away. Our art is going into *factories*, our preparations are being decimated by a better understanding of materia medica, and our best and most advanced physicians are beginning to realize that a few remedies are reliable and safe, but that nine-tenths of the stuff generally crammed at random into patients whose troubles are beyond diagnosis is an outrage upon nature, if not a crime. As far as most of us are able to judge, the physician and apothecary are not linked as closely together as they were wont to be in the past. They are drifting apart, and perhaps it is just as well that it is so. Physicians who confine their practice to a rational administration of medicine, can keep their own supply, *elegantly put, at wholesale prices*, in compact form ready for use in their office and buggy-case. The ingenuity and enterprise of manufacturing chemists and laboratories all over our country (with fresh additions every month) are rapidly bringing this state of affairs about. It will not be a great while ere the allopath and eclectic will shake hands with the homœopath and all carry their own drugstores in their coat-tail pockets. True, there are a great many people who read "Family Physicians" and almanac-hygiene, who, together with a large proportion of our foreign population, keep clear of the doctor and do their "own dosing;" it is this class of custom that will keep the apothecary's shop in partial demand while in the main the druggist is forced to seek other fields upon which to browse for existence.

Taking the dilemma promptly by the horns, we find the apothecary to-day carrying, in addition to what he advertises as a "full line of drugs and chemicals," "A large and well assorted stock of popular patent medicines," "non secrets," toilet articles, a fine line of wines and liquor —for medical purposes *only*—books, stationery and fancy goods, watches and jewelry, wall paper and decorations, paints and oils, dye-stuffs, and in many instances, confections, teas, coffees, groceries and provisions—you see to live, necessity compels him to enter the field of all branches of traffic in any and every direction that suggests the possibility of turning an honest penny. Confine the apothecary to his legitimate stock in trade by law, and six out of every ten would go to the rocks of bankruptcy inside of a year.

Now, with this condition of demoralization can you regard pharmacy or chemistry a profession outside of a laboratory or factory. And is there any real or imaginary necessity for titled and registered dudes to be placed behind liquor stands, wall paper screens, oil barrels or book, stationery and fancy goods counter, there to preside under protection of a pharmacy law? Is not this old-curiosity-shop business, yclept a drugstore, the whole country over, a most brazen trespass upon a wide range

of other trades and business enterprises? How would a law feel compelling a druggist to confine his stock down to drugs, chemicals and patent medicines? Why not look this true state of affairs squarely in the face, and honestly acknowledge that other trade-followings need protection likewise?

This creation of a dude class of sprouts, who are beginning to build up a nice source of revenue to the spectacled imports from Leipzig, Berlin, Jena, Muenchen and Vienna, and their imitators in this country, may possess the charm of novelty; may tickle the juvenile fancy to be diplomaed and papered a Ph. D., Ph. G. or Dr., until such paper distinctions become as prolific as the Captains, Majors, Colonels and Generals of the South; but this sort of galvanoplated nonsense won't go down with the men who worked their way up from the pestle and dust-pan, and have now arrived at that stage of the world's onward stride, to accept the fact that "Othello's occupation's gone," and that the druggist and apothecary of to-day is but the mere vendor of ready-made goods not usually kept in good assortment in the country store.

The life tenure of the apothecary is cut short proportionally to the ratio of increase of pharmaceutical colleges, professors (?), mushroom chemists and titled graduates. They predicate more colleges, more professors, more patent medicine inventors, more factories and more chemical machine drugshops, where everything is made, compounded, prepared, stewed, brewed, coated and advertised, until there is nothing left to the "pharmacist" but to serve it up to his customers and doctor as the darkey waiter serves quail on toast. And now, apropos of the laws to help consummate this glorious "winter of our discontent," look at Iowa and see the great boon the present law has insured to the people. Look at Kansas. Men who once thought they were druggists have turned their accomplishments to coining money from behind a prescription case serving as a whisky counter. Gamblers, pimps and bullies have set up shelves with patent medicines, built up elaborate prescription cases, put gaudy show bottles into the win low and brass mortars at their door. The prescription case is a whisky fountain, and upon its elaborate cornice perches the lithographed diploma of a Ph. D. side by side with a license extorted by the State Board of Pharmacy, entitling the owner of that piece of paper to preside behind that mask at $75 per month to dispense whisky. Is this one of the great boons secured to the people? Is it commendable? It may be all right enough to the registered barkeeper, but he ought not to hold privileged monopoly in that line. What business has a druggist to enter into competition with a saloon-keeper in the whisky traffic? Is he not the more contemptible for offering to the sneaking, sniveling Pharisee (who rolls up his eyes in holy horror at the sight of a poor, miserable, reeling slave to liquor) a resort behind his prescription case to indulge the same vice? Oh, we are a noble profession. Let us make money honestly if we can, but make it at all hazards. I am not averse to any law that is good—a law that will ensue to and secure the general welfare justly to all alike; but I have no more sympathy or respect for a law concocted in the meeting of a pharmaceutical society for the specific gain of certain trade interests than I have for one concocted by a meeting of railroad magnates in a hotel parlor, and then pushed, lobbied and wheedled through a State's legislature in the sacred name of the people. It is one-sided, arbitrary, unjust, mercenary, immoral, and as foreign to the letter and spirit of our constitutions as any ukase by the Czar of the Russias. A State law, to be a law, must rest its validity, force, equity and execution in the State and not to the keeping and tender mercies of a star chamber composed of members of a private association, whose mission is the attainment of private, selfish ends. A law making it obligatory upon the governor of a State to appoint a board nominated to him by a pharmaceutical association is about as just and reasonable as one making it obligatory upon him to appoint as railroad commissioners such persons as may be nominated to him by the stockholders of all roads operating lines in his State. If a board for the control of a liquor traffic in a State should ever become a public necessity would it not be a wise provision in the law creating the same to let the "Brewers and Liquor Dealers' Protective Association" nominate the members of such board? And most assuredly would they insist that such members be practical and experienced men, actively engaged in that particular line of business. Is the point obscure? Such laws are simply bastards born of selfishness. The man who will down before them unchallenged is unworthy the honor of citizenship. They are a disgrace to the profession that lobbied them into statute, and no court, competent to pass upon their constitutional validity, would hesitate in wiping them out, being unjust, un-American and unconstitutional. All that is necessary is to present the matter in its true light and bearing. Show up the origin of these laws; show who operates them, and for whose special benefit they are operated, and the conclusion is inevitable. A man, or men, may have a perfect right to be selfish and mercenary, but he, or they, should never allow their greed and vanity to run away with their sense of justice.

HILARIUS LUXANTUS.

APPLETON, WIS., June 24, 1886.

[We call the attention of "Hilarius" to the fact that the question at issue is not if pharmacy laws are perfect, but whether, with all their imperfections, they are calculated to promote the education of pharmacists and protect the public from ignorant dispensing.—ED. W. D.]

SPECIMEN ERRORS.

(Editor The Western Druggist)

Pharmacy laws can guard against incompetency; they cannot prevent mistakes. Out of five years' experience as druggist I want to give you some of the errors which have come under my notice in association with ten or fifteen clerks, any one of whom could have passed any of our State examinations, a few having passed the German "*State examination.*"

One lost his situation by dispensing turpentine for alcohol. One wrote a tablespoonful for teaspoonful on a prescription containing paregoric, which was discovered in time to prevent fatal results. Another put up ten pills for twelve, the patient discovering the error at the door, having seen before delivering the prescription the number of pills. In a two-ounce mixture containing chloral and syrup and distilled water for a child in a critical condition a clerk dispensed aqua colognensis for aqua destillata. This was discovered in time to prevent administration. A German clerk nearly killed a man by giving (in his night watch) a five grain package of morphine, prepared to sell for ten cents to morphine-eaters, when a dose was asked for. The patient was used to taking morphine, and of course refused to take the "dose." A man wrote the following order: "Send me a bottle of Dewee's Carminative, without any opium." The ordinary was sent, and prompt measures only rescued a baby from death. Two prescriptions of eight ounces each were prescribed, one for a husband and one for his wife. These were repeated and the medicines exchanged in the respective bottles, Mrs. Blank taking Mr. Blank's. The difference in taste discovered the mistake immediately. These are a few errors by pharmaceutical graduates and German "apothekers."

LICENTIATE.

Progress of Pharmacy.

THE POISON OF THE NETTLE according to Dr. Haberlandh (Nature p 122, '86) is not, as has been long supposed, formic acid, but most probably a transformed ferment or enzymotic poison.

THE PURITY OF COMMERCIAL SANTONINE has been investigated by J. T. Beck (Ohio Pharm. Assoc.) who, after examining fifty-seven specimens, bearing the labels of half a dozen different manufacturers, found only two samples below the official requirements. It is therefore concluded that the santonine of the market is of uniformly good quality.

AS AN EXCIPIENT FOR QUININE PILLS, simple syrup is recommended by Clay W. Holmes (N. Y. Pharm. Assoc.) Uncoated pills were found, upon being kept one year, to retain their shape,and to be equally efficient therapeutically, as quinine in powder. For larger quantities a little powdered acacia is added to render the mass more plastic, and sometimes also a small quantity of tartaric acid to reduce the size.

THE EFFECT OF SULPHATE OF IRON ON THE POTATO DISEASE fungus has been pointed out by Dr. A. B. Griffiths (Chem. News, p. 256, '86) who found that a solution of 1-10 per cent. of ferrous sulphate in water perforated the cellulose walls of the fungi, while without effect upon higher plant life. Potash salts in manures stimulate the growth of the fungi, as has been pointed out by Chevreul in the use of potassium nitrate, though valuable to the potato plant.

THE CAUSE OF THE EFFERVESCENCE OCCURRING WITH SODIUM BORATE, GLYCERIN, SODIUM BICARBONATE AND WATER, has been investigated by F. A. Bauer, who contributes the results of his observations to the Ohio Pharmaceutical Association. As has already been pointed out by Messrs. Senior and Lowe, boric acid is set free when glycerin is added to a solution of borax. The most reasonable explanation, therefore, would be that the free acid acts upon the sodium bicarbonate, and causes effervescence by liberating carbonic dioxide (acid gas).

TO PREVENT INFUSIONS OF VEGETABLE DRUGS FROM SPOILING, Luettke recommends the addition of an alkali. (Der Pharmaceut. page 83, '86). Having observed that infusion of senna when freshly prepared was invariably acid in reaction, this fact suggested itself as possibly bearing upon the case by which this and similar infusions undergo fermentation. By adding a small quantity of sodium bicarbonate to infusions when freshly prepared their stability was found to be greatly increased.

FROM THE RHIZOME OF ACORUS CALAMUS A PROXIMATE PRINCIPLE has been obtained by Thoms (Arch. Pharm. p. 465, '86) by a very peculiar process. The cold aqueous infusion of the dried rhizome was digested for two days with freshly burnt animal charcoal, and deprived of all bitterness. The charcoal, washed and dried, was boiled with 90 per cent. alcohol. Upon evaporation of the alcohol a turbid liquid was the residue, which was repeatedly agitated with ether. From the ethereal liquid, after evaporation of the solvent, the bitter principle was obtained as a viscid liquid of golden yellow color, neutral in reaction, with a faintly aromatic odor, and very bitter aromatic taste, insoluble in water, dilute acids and alkalies, easily soluble in alcohol, ether, benzol, chloroform, etc. It is represented by the formula $C_{36}H_{60}O_6$ and has been termed acorin. The yield is very small, being only 0.1854 per cent. Upon being treated with acids and alkalies in a current of hydrogen it splits up into essential oil of calamus and a saccharin substance; when this reaction goes on in atmospheric air the oil readily oxidizes and is converted into a neutral resin—a crystalline alkaloid was also obtained from the extract after the acorin had been removed by ether.

IODOL, THE NEW COMPOUND OF IODINE WITH PYRROL, is becoming more popular as a substitute for iodoform. Clinical experience with it at the medical centers on the Continent show little danger from toxic accidents following its use as compared with iodoform. When applied to the surface of a wound or injected in small quantities no toxic symptoms were observed. Its antiseptic properties are said to equal those of iodoform, while it possesses the great advantage of being almost odorless.

OLEATE OF QUININE—Quinium oleate—is recommended to be prepared by Rother (Drug Circ. p. 162, '86) as follows: Anhydrous quinine (alkaloid) 324 grains, is added to a mixture of 282 grains of oleic acid mixed with an equal volume of alcohol. Dissolve if necessary by the aid of heat, filter, and expel the alcohol by evaporation and incorporate a little water with the residue. Set aside in the open air until the salt has become firm and perfectly dry. This salt contains about 52 per cent. of quinine and may be reduced to any percentage strength by the addition of oleic acid, petrolatum, etc.

TRANSPARENT GLYCERIN SOAP MADE WITHOUT ALCOHOL.—The following procedure (Rundschau Prag. 1886) is recommended: 26 ounces of cocoanut oil; 30 of suet and 37½ of castor oil are heated together, and allowed to reach finally a temperature of 156° F.; to this mixture is then added 56 ounces of a 30 per cent. caustic soda solution at a temperature of 66° F. When the mass becomes quite stiff, it is heated in a water bath at a temperature of 180° to 190° F. until completely saponified and a clear, transparent product results; 25 ounces of sugar and 3 of glycerin dissolved in 26 ounces water, strained and warmed to 190° F., is gradually stirred into the mixture; ten ounces of freshly powdered sodium carbonate is then stirred into the mixture until it is thoroughly dissolved, when a sample of the resultant compound spread upon glass should become hard. The rest of the mixture is allowed to remain on the water bath for about two hours, when a sample cupful should remain firm, clear and transparent. This last can be insured, if necessary, by adding one or two ounces of sodium carbonate and warming the mixture to 145° F. when cooled to 135° F., perfume it and transfer to proper moulds. Several precautions are necessary in order to avoid the flocculent or turbid appearance of the product, namely, to use purified fats of the best quality, pure glycerin, and the water free from lime.

Botany and Microscopy.

THE AGE OF TREES.

The Chief Forester of Prussia denies that trees ever attain the age of a thousand years as was formerly supposed. His investigations result in placing the extreme age of the pine at 570 years, of the larch at 429, of the oak 410, of the red beech 245 years. The chronicles of Wurtemburg show a certain linden tree at present in existence to be at least 433 years old, but except for the artificial protection it has received it would doubtless long ago have been blown down, as seven of its large branches are now sustained by stone columns, and its trunk is a mere shell supported internally as well as externally by masonry.

THE A. A. A. S.

The American Association for the Advancement of Science will hold its thirty-fifth annual meeting at Buffalo beginning the 18th of August. This will be the third time that city has entertained this scientific body. Its proximity to Niagara Falls and other localities of scientific as well as historical interest, and also its cool summer temperature, make it a desirable place for meetings of the kind, and doubtless the attendance at the coming meeting will be a large one.

The botanical section, stimulated by the success of the meeting last year, is planning excursions and preparing for a large attendance and profitable meeting this year. It is one of the most vigorous of the sections into which the association is divided.

COLLECTION AND PRESERVATION OF PLANTS.

The June number of the Botanical Gazette is called the Herbarium number, and is devoted to the collection and preservation of plants. It contains brief articles on the subject by a considerable number of the leading botanists of the country, and many of the suggestions will be of great value to less experienced collectors. On most important points there is substantial agreement. For instance, all urge the importance of rapid drying, and insist that the driers should be frequently changed in order to secure the best results. There is unanimity also in insisting on the preservation of specimens which are as complete as possible. Both flower and fruit should be shown, and as much of the vegetation portion of the plant as can conveniently be exhibited on the standard botanical paper. But opinions are at variance as to the relative utility of the botanical box and the portable press or portfolio, some preferring one and some the other. As to the means of poisoning to prevent the destructive effects of insects, solution of bichloride of mercury appears to be preferred. Some botanists prefer to fasten the plant directly to the paper by means of glue, and one botanist strongly recommends fish glue for the purpose, while others secure the plants to the paper by means of gummed strips.

Practice differs a good deal also as to the kinds of driers used. Some prefer old newspapers, others the thick bibulous paper that is sold in rolls for carpet-lining, and one botanist produces remarkably good results by the use of felt. The kinds of presses used, also, are various. Some advocate the screw copying-press as the most convenient and satisfactory; others discard this in favor of a lever press, which has the advantage of keeping the pressure constant, "following the pile as it inevitably settles;" and another botanist of large experience says, "My press is composed of two boards about twenty inches square (one for the floor, the other for the top), and my weight is a great stone." As regards the amount of pressure to be applied, the opinions seem to agree that this should be considerable, though it should be varied, of course, with the number of plants in press.

Various specialists also contribute notes on the collection and preservation of thallophytic plants. Francis Wolle treats of the fresh-water algae; W. G. Farlow of the slime molds; A. B. Harvey, of the marine algae; Wm. Trelease, of the bacteria; and Eloise Butler, of the desmids.

DEVELOPMENT OF LEAF OF EUCALYPTUS GLOBULUS.

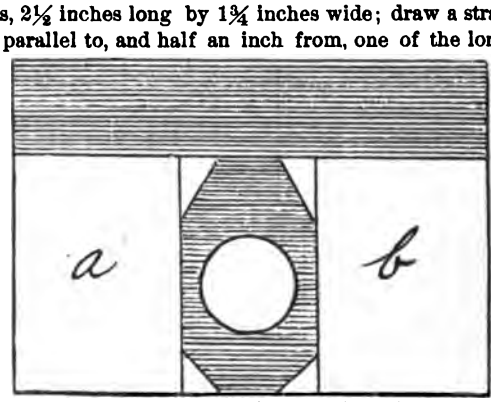
Mr. S. Grosglik has been studying the development of the leaf of Eucalyptus globulus, and some of the results are instructive. It is well known that the leaves of the young tree of this species are quite different in form from those of the older trees. In the young tree they are oval-oblong, short petiolate, and are placed horizontally, while on the older trees they are narrow, scythe-shaped, have longer petioles, and for the most part have their edges vertical.

Mr. Grosglik finds that in the early stages of the development of the leaf the mesophyll, or interior parenchyma of the leaf, consists of nearly uniform tissue made up of cells which are nearly equal in diameter in each direction. In a later stage of development, in the leaf of the young tree distinct palisade tissue is developed next the upper epidermis, but not next the lower. The same is also true of the scythe-shaped leaves of the older trees if the leaf be kept from assuming the vertical position; but when permitted to assume this position, as both sides are equally exposed to the light, palisade tissue is developed equally next both the upper and the lower epidermis. It would seem, therefore, that the development of palisade tissue bears a direct relation to the intensity of the light.

CAMERA FOR DRAWINGS.

A cheap camera lucida, that answers the purpose admirably for making drawings by aid of the microscope, may be constructed as follows:

Take a rectangular piece of ordinary sheet tin or sheet brass, 2½ inches long by 1¾ inches wide; draw a straight line parallel to, and half an inch from, one of the longest



edges; measure off on this line ⅞ of an inch, counting from each of the narrower edges, and mark the points with an awl; draw a line from each of these points perpendicular to the other long side; now by means of a tinner's shears cut out the two rectangular areas thus laid off, and

marked in the diagram *a* and *b;* take the remaining T-shaped piece of metal, and at the junction of the body and arms of the T cut out two triangular pieces in such a manner as to leave the upper part of the body of the T where it joins the arms about ⅜ of an inch broad; cut off the lower corners of the body; in the center of the latter now make a circular hole about ⅛ inch in diameter; lay the piece of metal thus obtained flat on a table and curve its arms upward, so that when slipped over the end of the eye-piece it will be held firmly in position; now at its junction with the arms bend the other portion upward at an angle of 45 degrees; and lastly, by means of hard balsam or other suitable cement, fasten a cover-glass over the circular aperture, and the camera is completed. The following diagram shows the method of cutting out the piece of metal, the unshaded portions being the portions cut away. The form as described will fit the eye-piece of most students' stands, and by modifying the dimensions slightly one can readily be made on the same general plan to fit any eye-piece.

NICOTIANA GLAUCA.

Prof. Farlow, during a visit to the Pacific Coast, found Nicotiana glauca, a species of tobacco introduced from the Argentine Confederation, growing abundantly as a weed along roadsides in Southern California, and he also observed that it was infested with a fungus parasite, Peronospora Hyoscyami, De Bary. As the species of peronspora attack different species of flowering plants belonging to the same natural order, he apprehends there is danger that this fungus may extend its depredations to the cultivated tobacco, in which case probably it would cause great injury or loss.

Neither Nicotiana glauca nor its parasite have yet made their appearance east of the Rocky Mountains, but the rapid spread of both in California gives ground for apprehension that by agency of railroads or other means it will do so, and thus endanger the tobacco industry throughout the Gulf States.

CHLOROPHYLL IN PLANTS.

Experiments have been tried by Dr. A. Hansen with the view of determining the amount of chlorophyll in given areas of leaf surface in plants, and so to ascertain the amount necessary to the production of a given weight of starch. The plants he experimented upon were the sunflower, pumpkin, turnip and tobacco. He isolated the chlorophyll by boiling the leaves for a short time in water, and then extracting by means of 96 per cent. alcohol. After saponifying the alcoholic solution the chlorophyll was extracted by means of alcohol—ether evaporated, dried, and weighed. He found that the amount varied considerably with the species, but the average he obtained was 5.142 grams to the square meter of surface. Sachs, in his experiments on the pumpkin and sunflower, had previously determined that these plants form about 1.6 grams of starch per hour per square meter of surface. The amount of chlorophyll, therefore, adequate to the production of 1 gram of starch per hour is about .2 of a gram, or 1-5 the weight of the starch. Dr. Hansen also believes that the function of chlorophyll is to act as a carrier of carbon dioxide to the protoplasm of the chlorophyll bodies, and that the real work of assimilation is accomplished by this, and not by the chlorophyll itself.

A CURIOUS PLANT.

A curious instance, in which plant and animal each appear necessary to the life of the other, is illustrated in Acacia cornigera, a plant indigenous to the Malay Archipelago. The plant is inhabited by a peculiar species of ant, Pseudomyrma bicolor, which gnaws its way into the strong thorns of the plant, hollows them out and makes a nest for itself, afterward obtaining sustenance by feeding on the glandular secretions of the young leaves. The ants having thus a home and food provided for them, compensate their host by protecting it against its enemies. They are exceedingly active little creatures, and have sharp stings, so they are able to protect the plant not only against leaf-cutting ants, but also against herbivorous mammalia.

Mr. A. B. Seymour recommends the liquid fish glue sold in the stores under the name of Le Page's Liquid Glue as unequaled for herbarium use. It may be purchased in cans of various sizes at very reasonable rates. To insure it against spoiling, a small quantity of corrosive sublimate solution is added.

The American Society of Microscopists holds its next annual meeting at Chautauqua, N. Y., beginning Aug. 10 and continuing four days. As the time of meeting is one week previous to that of the American Association for the Advancement of Science, and as both societies meet in the same State, many scientists will doubtless attend both. The working session, an important and interesting feature of the meeting, is under the direction of Mr. E. H. Griffith, and those who expect to attend are justified in anticipating an interesting and instructive exhibit of methods, processes, slides, mounting materials, apparatus, etc. Hon. J. D. Cox has promised to take charge of the exhibition of photomicrographic methods.

Those who have been impatient to see the new ⅛-inch objectives made by Zeiss out of the new glass will soon find their opportunity, as Messrs. Emmerich & Sons, the agents of Zeiss in this country, announce that they are daily expecting a consignment of them. The old 1.18 objective that has long been held in such high favor is also, we understand, to be superseded very soon by a superior one made from the new glass.

Recent experiments conducted by Messrs. Bonnier & Mangin prove that, contrary to the currently accepted view, chlorophyll does decompose carbon dioxide under the influence of the invisible rays beyond the violet end of the spectrum, although of course the action there is comparatively slight.

Herr H. Hoffman has for some years been conducting experiments on unisexual plants, with the view of ascertaining the influence of food on sex. He reaches the conclusion that when food is abundant females are developed most numerously, and when food is scanty male progeny predominates. Experiments which have been tried on animals justify similar conclusions with regard to them.

We reply to a Kansas inquirer that the theory of the "State Agency System" of liquor selling is that the State has the power to sell liquor in the various districts by means of local officials who are endowed with judicial powers to determine whether the reasons assigned for the purchase of liquor are sufficient, and are thereby permitted to sell or refuse to sell the same to applicants. Political reasons have prevented the system from being a success in the States where it has been tried. It has been used as a means of blackmail and of securing party advantages. It has not prevented the evils which at present afflict the Kansas pharmacists, nor has it pleased the prohibitionists, since State agencies have been given as rewards for political services to persons who knew how to make them profitable.

Notes and News.

Mr. Jas. S. Kirk, of "soap" fame, died June 16, 1886.

A case of poisoning by sorrel is reported from England.

"Hydrophobine" is an English contribution to the copyrighted preparations.

Bottled Boston Faith Cure has been asked for as a toothache remedy in Tennessee.

The World's Chemical Supply Company, of Chicago, has recently been incorporated.

The saccharine matter of the poppy is now used in the production of brandy in Pondicherry.

Cinchona cultivation in Ceylon is becoming unprofitable, and tea cultivation is taking its place.

Mr. Peter W. Hoagland, a well known New York wholesale druggist, died June 2, 1886.

Methylated spirits, known popularly as "Leith whisky," are becoming a favorite beverage in Scotland.

Dr. Joaquin Chillida y Melia, editor of the Revista Medico-Farmaceutica, of Castillon, Spain, is dead.

Pharmacy in Jamaica, W. I., is at low ebb, owing to the government dispensaries offering medical aid free.

Mr. James Baynes, a prominent pharmaceutical chemist of Hull, England, died June 9, 1886, at the age of 74.

The New York State Board of Pharmacy passed 19 out of 43 applicants for registration at its last meeting.

The New York Medical Monthly, a new journal edited by Dr. J. Leonard Corning, presents a neat appearance.

"Teething powders" containing one-eighth grain antimony oxide, recently killed two children in England.

"Energy and enterprise climb the steep stairs to the pinnacle of success, while luck goes up in an elevator."

"A new way to pay old debts is to pay them, but it has not been very generally adopted and probably never will be."

Thos. Dyke, a clerk in the employ of Lyman Jeffrey, Buffalo, N. Y., died June 24 from an overdose of morphine.

"A DRUGGIST," DAYTON, OHIO: There is now no State pharmacy law in California, the former law having been repealed.

A Birmingham, England, pharmacy advertised in 1741 as "an old established apothecary shop," has just been closed.

The substitution of hydrochloric for acetic acid nearly caused the death of five operatives in a German anilin factory.

The Wisconsin Pharmaceutical Association will hold its seventh annual meeting beginning Aug. 10, 1886, at Fond du Lac.

The Monthly Druggist, of Bairdstown, O., is a wee drug journal which does credit to the advertising ingenuity of a local firm.

A total abstainer in England, on the advice of a temperance lecturer, took a fatal dose of ammonia as a substitute for alcohol.

It is the general opinion that the exhibit of Messrs. Frederick Stearns & Co., Detroit, at the Minnesota Pharmaceutical Association bore off the palm for attractiveness and interest. The continued and growing popularity of the manufactures of this firm furnishes indubitable evidence of their merit.

The Nebraska Association is to be congratulated upon having drafted a law essentially identical with the Michigan pharmacy act.

Dr. Rosa Upson, of Marshalltown, Iowa, has been elected Secretary and Treasurer of the University of Iowa Alumni Association.

Mr. L. Trautmann, Jr., a prominent pharmacist of Read's Landing, Minn., was married to Miss Lizzie Luger, of Fargo, Dak., June 24, 1886.

Dr. Huppert has been appointed lecturer on chemistry in Prague University in place of Dr. Linneman (the discoverer of Austrium), deceased.

The store of John Sheehan & Co., wholesale pharmacists, Utica, N. Y., was destroyed by fire June 9. Loss $60,000, nearly met by insurance.

The New York County Medical Society movement against counter prescribing has been used as a means of blackmailing pharmacists by swindlers.

The Independent Journal (anti-Standard organ) has given up the ghost, and Mr. J. F. Riday has returned to his first love, the Oil, Paint and Drug Reporter.

A new infant-feeding-bottle advertisement directs that "when the baby has done drinking it should be unscrewed and laid in a cool place under a tap." Poor baby!

Lord & Thomas, of this city, the leading Western advertising agency, gave a very pleasant "formal opening" of their new offices, 45–49 Randolph street, July 2, 1886.

The Pendleton Drug Company, of Nashville, with a capital stock of $100,000, consolidates the firms of Pendleton, Thomas & Co. and White, Handley & Co, of Nashville.

Forged prescriptions are troubling the French pharmacists so that the Paris Society of Legal Pharmacists proposes to compel physicians to carry hand-stamps, with name, address, etc.

Nine hundred strong, says the muster roll of the Illinois Pharmaceutical Association. 'Who can beat it?" asks the secretary, proudly. We believe New York threatens to contest.

A night pharmaceutical service for accidents has been organized by the Paris (France) municipal authorities. Those who enter the service are guaranteed payment by the city, with extra compensation.

Checks on Poison Errors.—Mr. C. Galletland (Bulletin Commercial de Pharmacie, June, 1886) says that when a prescription is presented to him he immediately underlines the dangerous ingredients in red ink.

Prof. Chas. Froebel, at one time a member of the faculty of the New York College of Pharmacy, died June 19. He had begun his chemical education in Freiburg University, and completed it under Prof. Genth, of Philadelphia.

One more instance of how "figures do lie" was cited in the course of the Massachusetts Association discussion of the liquor question. A pharmacist of Worcester reported a very large number of sales of small amounts of alcohol, and this was quoted throughout the State as evidence of the extensive sale of liquor by pharmacists. In reality the

pharmacist lived in a French community which used alcohol as a fuel for culinary purposes. With this explanation added to the figures given, much newspaper invective against liquor-selling pharmacists might have been avolded.

The following gentlemen were recently appointed members of the New Jersey State Board of Pharmacy: Chas. Holzhauer, Aug. Drescher, Newark; W. R. Laird, Jersey City; A. P. Brown, Camden, and R H. Van Sant, Trenton.

It is reported that a jobbing drug house in Burlington has been severely "victimized" by a long time and trusted employe. Embezzlements and falsification of accounts were adroitly and systematically carried on for several years before discovery.

PILEGANINE, an emeto-cathartic alkaloid, has recently been discovered in one of the lycopodiacea L. Saussurus. The plant is much employed by the Brazilian physicians. Pileganine is soluble in water, alcohol, chloroform, and slightly soluble in ether.

The Detroit Pharmaceutical Society, at its June 21, 1886, meeting, elected the following officers: President, A. S. Parker; First Vice-President, Frank Inglis; Second Vice-President, J. C. Müller; Secretary and Treasurer, A. W. Allen; Assistant Secretary, H. McCrae.

If, as stated in the Illinois Association proceedings, camphor separates organic matter from water to which it is added, it will be obvious that camphor water is not suited for a hypodermic vehicle, since it would increase the danger from blood-clot formation in the veins.

The Fond du Lac druggists have made elaborate preparations for the reception and entertainment of visiting members of the Wisconsin State Pharmaceutical Association, which meets in that city Aug. 10–12 next. All who attend may feel assured of a profitable and enjoyable time.

The Illinois Board of Pharmacy has finally discovered its ability to reduce the annual fee for registered pharmacists to $1.50. Even at the reduced figure the revenue of the Illinois Board will be several times that of any other State Board in the country. Proportionately efficient service may naturally be expected.

The sixth suit under the Wisconsin pharmacy law came up the other day, being entitled "State of Wisconsin vs. Walter McWilliams," of Eagle. The offense was keeping a drugstore and having no registered person in charge. McWilliams was fined $50 and costs, amounting in all to $58.00. The State board are active in prosecuting all persons who violate the law.

Druggists in Illinois must not feel too deeply hurt if it should be charged that members at the Rockford meeting gave considerable countenance to a local drugstore of accommodating sample-room tendencies. This episode is precisely what is needed to arouse public sentiment to the point where it will shout for enlarged legal privileges for druggists in the sale of liquors.

A lady asked a Racine, Wis., pharmacist for cedar balsam. He recommended, instead, oil of cedar (which is sometimes popularly called cedar balsam). She gave her child a teaspoonful of the oil, which killed it. The proprietor of the pharmacy intends to defend the clerk who sold the oil of cedar, so any opinion as to an error on the part of the latter would be somewhat premature.

Judge Love at Keokuk recently decided, in the saloon cases of Mahin vs. John Pfeiffer and James M. Weirr—a removal case from Muscatine county—that the same comes within the principles laid down in the Walgruff brewery case recently decided by Judge Brewer in Kansas, and that confiscation of property used in a lawful business prior to the enactment of the prohibitory laws which went into effect in July, 1884, cannot be made without compensation. This would be applied to buildings erected especially for saloon purposes, to those leased for the business of selling beer and wine as formerly licensed by the State and fixtures and furnishings used therefor.

The Iowa State treasurer was, on June 6, in receipt of the first money from the operation of the pharmacy law, being 25 per cent. of a fine imposed by a justice of the peace in Webster county upon a violator of the pharmacy law. The law is chapter 83 of the new laws, and provides that 25 per cent. of fines collected shall be paid into the State treasury and held for the use of the Pharmacy Commission in prosecuting offenders.

Prof. Albert B. Prescott, the learned dean of the School of Pharmacy of the University of Michigan, was honored with the degree of "Ph. D." by the university at its recent commencement exercises. As a scholar and as a man Prof. Prescott enjoys universal respect and esteem. The formal recognition of his worth by the famed university of his State cannot but prove a source of gratification to his numerous personal and professional friends.

All portions of the State will be given an equal opportunity to attend the meeting of the Illinois Pharmaceutical Association at Decatur next year. The absence this year of the old wheel-horses, Marmon, Cunningham and Schroeder, was greatly regretted. The president of the Board of Pharmacy, whose term expires this year, was also absent. His unanimous renomination by the association was a significant testimonial of esteem.

"If the medical commission," says an exchange, "appointed by Congress discover that yellow fever can really be prevented by inoculation, then the people of this country may confidently expect to have all the ills which afflict the flesh prevented or cured in a similar manner. A man will be inoculated against consumption, whooping cough, measles, chills, dysentery, heart disease, malaria, mumps and other ailments, until his system is transformed into a menagerie of wild and roving microbes."

The Revue Scientifique announces the discovery of a beetle, christened Cetonia aurata, which is to render unnecessary all the knowledge gained by Pasteur concerning the treatment of rabies. A Russian naturalist, Alexander Becker, is credited with having made known the properties of this invaluable bug, and as being the authority for the statement that in Southern Russia it is the commonly recognized and always efficient antidote for rabies. All that is necessary for a person to do, after having been bitten by a mad dog, is to eat a piece of bread in which a Cetonia aurata is enveloped, and he will be secured against hydrophobia. The insect is said to be of a metallic green color, with some white lines and spots upon it, and it is represented as common among the flowers not only of Southern Russia, but of nearly all Southern Europe.

The Des Moines Register of May 4 has the following:

"The physicians of this city are greatly exercised in mind over the sudden decrease in disease that has lately taken place here. A glance at the reports made to County Auditor Jones by brewers and liquor dealers will show that change to have taken place about April 10. Whereas before that time within 2 per cent. of all the liquor sold had been for medicinal purposes, since they have all been either culinary or sacramental. In future ages the philosopher who examines these records can tell to a day when this great wave of good health swept across the State, and it will doubtless give them food for much reflection."

The amendment to the Iowa Pharmacy Law, which took effect April 8, is the *probable cause* of the above item, and Judge Stuttsman's ruling at Fort Madison makes this assurance doubly sure.

Societies and Colleges.

N. R. D. A.

The fourth annual meeting of the N. R. D. A. will be held in Blackstone Hall, Providence, R. I., Monday, Sept. 6, 1886. The meeting will be called to order at 10 A. M. Delegates are requested to present through their chairman as early as possible after convening any instructions from their several State associations or suggestions from trade committees for consideration. Credentials should be sent to the secretary previous to the meeting.

This year the trade exhibit will be held under the auspices of this Association, and every endeavor will be made to render it a success. Space may be secured on application to Mr. H. I. Leith, local secretary, Providence. A miscellaneous concert with readings will be given in the exhibit hall Monday evening for the benefit of members and friends.

An organ concert will be given in the same place each day from 12 to 1 during sessions of N. R. D. A. and A. P. A. Headquarters will be at the Narragansett House. Terms, $3, $3.50 and $4 per day, according to location. Rooms may be secured in advance by addressing Mr. E. C. Danforth, proprietor. As this will be an important meeting, it is hoped there will be a full attendance. The order of exercises will be published later.

J. W. COLCORD, Secretary.

LYNN, MASS., July 6, 1886.

COMMITTEES OF THE N. Y. P. A.

The president has announced the following committees since our Special Edition was issued:

Committee on Unofficinal Formula.—C. S. Ingraham, Elmira; C. F. Fish, Saratoga Springs; Geo. E. Zimmerman, Rochester; C. H. Gaus, Albany; E. A. Sayre, Brooklyn.

Delegates to National Wholesale Drug Association.—Geo. J. Seabury, New York; W. H. Rogers, Middletown; W. N. Smith, Auburn; Chas. Hubbard, Syracuse; H. W. Atwood, New York.

Delegates to N. R. D. A.—H. J. Menninger, Brooklyn; C. H. Sagar, Auburn; J. B. Todd, Ithaca; T. J. Macmahan, New York; E. H. Davis, Rochester.

Delegates to Connecticut P. A.—H. A. Cassabur, Jr., New York; Frank D. Otis, New York; I. N. Hegeman, New York.

Delegates to Massachusetts P. A.—W. H. Rogers, Middletown; J. C. Smith, Plattsburgh; A. M. Knowlson, Troy.

Delegates to New Jersey P. A.—C. R. Paddock, Brooklyn; Albert Remey, Port Jervis; Eugene Barnes, Tarrytown.

Delegates to Ohio P. A.—J. Rieffenstahl, Buffalo; T. L. Corwin, Marathon; J. R. Paddock, Oswego.

Delegates to Pennsylvania P. A.—J. N. Bachman, Hornellsville; C. M. Lyman, Buffalo; Joseph Schnell, Binghamton.

Delegates to Virginia P. A.—C. A. White, Ithaca; C. L. Peacock, Fairport; D. J. Pierce, Port Jervis.

Delegates to Rhode Island P. A.—W. M. Massey, New York; Louis Sautter, Albany; Wm. Howarth, Jr., Utica.

WISCONSIN PHARMACEUTICAL ASSOCIATION.

This association will hold its seventh annual meeting at Turner Hall, Fond du Lac, Aug. 10, 11 and 12, 1886. The railroads will return all visitors to the meeting at one-fifth fare on certificate of Secretary Heimstreet. The following is the programme:

Tuesday, 10 A. M.—Election of members, etc.; 2 P. M.—Address of welcome, address of President, reports of the Secretary, Treasurer and committees, and reading of papers; evening—Exhibitor's reception at Turner Hall. Wednesday, 10 A. M.—Reading papers and discussions, reports of committees, report of Board of Pharmacy; 2 P. M.—Selection of place of meeting for 1887, nomination of members for Board of Pharmacy, general business; evening—Grand reception and ball in honor of the association, under the auspices of the Fond du Lac Pharmaceutical Association, at Crescent Hall. Thursday, 10 A. M.—Reading papers and discussion, election of officers for ensuing year, adjournment at 12 o'clock; in the afternoon, additional entertainments not now decided upon. For further information, Mr. F. M. Givens, the local secretary, should be applied to.

Messrs. W. F. Kent, President, and F. M. Givens, Secretary, and Messrs. J. C. Huber, W. H. Dilts, S. B. Stiles, C. E. Huber, H. W. Durand, C. H. Marshall, J. T. Dana, John Ditter, J. M. Mitchell, F. Krumme, H. Reeves and H. Wallichs, of the association, offer a very cordial greeting to the State Association, and promise a special round of entertainments designed to make its visit thoroughly enjoyable. The ladies of the members are specially invited.

KINGS COUNTY PHARMACEUTICAL ASSOCIATION.

At a special meeting held June 15 Messrs. G. B. Lawrence, R. Heinrich and C. F. Sautter were elected members. Resolutions of condolence on the death of G. M Baker were then offered by Mr. De Forest, and after suitable remarks by Messrs. Nicot, Perkins and De Forest, adopted.

Dr. Eccles, from the Herbarium Committee, reported progress, and exhibited specimens of podophyllum, aralia, medicantes, etc. On motion, the cardboard botanic specimen mounts tendered by Mr. F. S. Cooke, Flushing, on behalf of last winter's class, and the 400 botanic specimens tendered by Mr. Julius Biskey, of Flushing, were accepted with thanks. Mr. Stevens reported at length for the Lecture Committee. The school had been self-sustaining. Dr. Eccles and Mr. Nicot reported the results of their visit to the New Jersey and New York State Associations. Messrs. Nicot, Stevens, Paddock, Lakey and Perkins were elected delegates to the A. P. A., and Messrs. Nicot, Davis, De Forest, McElhennie and Stevens delegates to N. R. D. A., and $25 were appropriated for expenses. Mr. McElhennie exhibited a specimen of the "Edinburg Dispensatory," published in 1796 in Philadelphia. The influence of light on chemicals was then discussed by Messrs. Perkins, McElhennie and Dr. Eccles, who expressed opinions in favor of amber-colored vials. Dr. Eccles then reported that the joint committee had found a wide variation in tincture of iodine; hydrocyanic had also been found below par. The society, on motion of Dr. Eccles, appointed the following Library Committee: Dr. Eccles, Messrs. McElhennie, Stevens, De Forest and Perkins. Resolutions offered by Mr. McElhennie favoring well-educated apprentices were then adopted. On motion of Mr. Stevens, Dr. Eccles and Messrs. McElhennie and Paddock were appointed a Committee on Botany. The association then adjourned to the second Tuesday in September.

WISCONSIN LICENTIATES.

At the meeting of the Wisconsin Board June 16 last at La Crosse Messrs. F. Robinson, of Kenosha, president of the board; E. B. Heimstreet, of Janesville, secretary; A. H. Hollister, of Madison, and T. H. Spence, of La Crosse, were present. There were seventeen candidates for certificates as licentiates, of which number seven failed to pass, eight were granted full certificates, and two minor or second grade certificates. The successful ones were:

F. S. Foster, Beloit; Charles Albrecht, Winona; G. O. Gordon, Evansville; G. A. Rossberg, La Crosse; H. L. Partridge, La Crosse; C. S. Arnold, Geneva Lake; J. R. Collins, Lodi; C. A. Walsh, Tomah.

Second Grade—J. A. Clark, Unity; G. A. Sherman, Eagle.

The next meeting of the board will be held at Fond du Lac Aug. 12 and 13, at which time the State Pharmaceutical Association will be in session

MICHIGAN LICENTIATES.

At the regular meeting of the Michigan Board of Pharmacy, held in Detroit July 6 and 7, the following forty-six candidates out of a class of sixty three passed a satisfactory examination:

Edward Goddeyn, Al E. Steiger, John W. Gray. Frank A. Stutz, Frank W. Droelle, Paul H. Hirth, R. L. Stafford, John R. Kestell, Math. E. Dederichs, Walter H. Roesser, Julius Lipczinski, Geo. B. Goodrich, Victor Keller and John A. Burch, all of Detroit; Clarence D. Kirby, Leslie; J. A. Griffin, St. Charles; John N. Bell, Walkerville, Ont.; Wm. C. Tuttle, Albion; Lester W. Rogers, Charlotte; John T. Millman, Walkerville, Ont.; August Magdalener, Mt. Clemens; E. C. La Ford Harvey, Watford; John K. Brater, Jr., Saginaw; Wm. Dullam, Flint; G. S. Frenzel, Vassar; Jacob J. Haarer, Manchester; Chas. Hueber, Alpena; E. G. Runyan, Disco; Wm. Zimmer, Manistee; J. W. Doty, John L. Bannister, Wirt P. Doty, Chas T. Haigh and Geo. B. Daniels, all of Ann Arbor; Mason L. Thompson, Port Huron; Geo. T. Bader, Jackson; D. A. Schumacher, Saugatuck; J. M. Croman, South Lyon; G. Meinert, Grand Rapids; Edsel G. Ruddiman, Dearborn; W. W. Swinnerton, Niles; Ezra W. Harvey, Bancroft; John Finnegan, Escanaba; R. W. Culver, Battle Creek; Wm. Brugma, Vriesland; and G. B. Topping, De Witt.

The Board closed the first year of its existence on July 7. The old officers were re-elected for the ensuing year, namely: Ottmar Eberbach, Ann Arbor, President; Jacob Jesson, Muskegon, Secretary; James Vernor, Detroit, Treasurer. There are in Michigan 2,832 registered pharmacists, and 183 registered assistant pharmacists; 120 of the registered pharmacists have passed a satisfactory examination before the Board, at the meeting in Detroit November 3 and 4, 1885; 37 passed, out of a class of 37; at the meeting in Grand Rapids, March 2, and 3 1886, 37 out of 56 passed; at the meeting in Detroit 46 out of 63 passed. Total examined, 156; passed, 120; failed 36. The next regular meeting of the Board will be held at Lansing, Tuesday, Nov. 2, 1886.

JACOB JESSON, Sec.

MUSKEGON, July 19.

OHIO LICENTIATES.

At the meeting of the examining board of the Ohio Board of Pharmacy, held in Columbus May 10, sixty-one candidates were examined, and the following were successful: E. M. Smith, T. E. Rowlands, C. J. Gibson, W. H. Grigsby, W. H. Syfert and Fred L. Case, all of Columbus; I. H. Hills, J. J. Buebler and Alfred Heineman, of Cincinnati; G. P. Stauver, Bellaire; C. E. Henney, McComb; G. L. Lehrer, Sandusky; C. W. Benfield, Cleveland; H. J. Fischer, Cleveland; S L. Rambo, Logan; F. D. Hall, Newark; E. Jackson, Hamilton; S. H. Shull, Mansfield; G. J. Forsyth, Wooster; G. F. Sheets, East Palestine; W. C. Gordon, Wheeling; E. Meggenhofen, Chillicothe; and H. Weidling, Tiffin. Of the thirty-one who took assistants' examinations only eleven were successful, namely, F. C. Emde, F. Kuederle and E. Louselle, Cleveland; F. S. Scott and F. T. Kappes, Zanesville; C. A. Portmann, Canton; W. E. Mehaffy and L. R. Porter, Mt. Vernon; J. J. Fisher and L. J. Spenker, Toledo; and J. C. Fritch, Chillicothe. The next examination will be held in Toledo on Tuesday, Aug. 3.

NEW JERSEY BOARD OF PHARMACY.

Meetings for the examination and registration of applicants will be held on the third Thursday of each month (May excepted), as follows:

January—Trenton, 22 East State street.
February—Newark, 481 Broad street.
March—Jersey City, 264 Warren street.
April—Camden, 46 North Third street.
June—Newark, 481 Broad street.
July—Newark, 481 Broad street.
August—Long Branch.
September—Trenton. 22 East State street.
October—Paterson, Hamilton House.
November—Newark, 481 Broad street.
December—Newark, 481 Broad street.

EXTRACTS FROM BY-LAWS.—"The subjects for examination shall be pharmacy, chemistry, materia medica, toxicology, reading of prescriptions, and doses of medicines.

"Candidates failing on first examination shall not be re-examined within five months, and thereafter not within six months of last examination."

The secretary of the Iowa Commission of Pharmacy reports that ninety-two applicants for registration had been examined from March 27 to June 1, 1886; of these seventy-two have failed and twenty have passed a satisfactory examination. Certificates of competency will accordingly be issued to the following "Registered Pharmacists" for the places annexed:

O. N. Wagley, Newton.	Emery Sherman, Alden.
C. P. Squires, Burlington.	David F. Smith, Wellman.
John Hoyer, New Albin.	C. L. Yost, Davis City.
J. N. Medbury, Webster City.	T. F. Wilhelm, Ft. Dodge.
W. C. Earle, Waukon.	A. W. Swearingen, Lancaster.
Hugh B. Craig, Des Moines.	J. H. Burns, Dubuque.
E. H. Burlingham, West Union.	F. D. Cass, Churdan.
M. H. Hinsdale, Toledo.	H. W. Parker, Marshalltown.
J. W. Hines, Le Mars.	J. L. Kitchen, Kalo.
E. L. Dickey, Marshalltown.	J. W. Craig, Lohville.

In addition to these the following named have been registered without examination as graduates of colleges of pharmacy that require four years' practical experience before granting diplomas: Howard Kingsbury, Burlington; S. H. Moore, Sioux City; Arthur J. Moore, Sioux City.

In Judge Stuttsman's instructions to the grand jury at Fort Madison, relating to the pharmacy law, he holds that sales for medicine of intoxicating liquors is confined exclusively to registered pharmacists of the State, and no person has a right to sell intoxicating liquors for medicine in the retail way, at least unless he is a registered pharmacist and has a pharmacist's permit to sell as provided by the pharmacy law.

TIN AS A CANNED FRUIT POISON.—Dr. T. P. White (Cincinnati Lancet and Clinic, July 10, 1886) concludes after several experiments that tin, though having decidedly toxic properties when introduced into the blood, is entirely devoid of danger when taken internally in any form which could arise from being in contact with fruit or vegetables.

ALABAMA PHARMACEUTICAL ASSOCIATION.

The Alabama State Pharmaceutical Association was called to order by President A. L. Stollenwerck, at Birmingham, May 11, at 2:30 P. M. The following were then elected members:

Messrs. Wm. Gregg, Dr. Maddox, M. E. Withington, James H. Peebles, M. F. Brooks, R. K. McMiller, W. R. Gunn and E. F. Elliott, Birmingham; R. G. Southall, State Line; Frederic J. Miller, Louis A. Duckert, Edward B. Norton and Albert E. Brown, Mobile; A. C. Bailey, Demopolis; A. A. Livandais and Wm. E. Bingham, North Port; M. F. Goodloe, Gainesville; Wm. H. Phillips, Clanton; Chas. B. Goldthwaite, John R. Goldthwaite, Troy, and John W. Castlebury, Talladega. After which the Association adjourned till 8:30 P. M.

EVENING SESSION.

The meeting was called to order at 8:30 P. M, by President Stollenwerck. Messrs. P. C. Candidus, J. L. Wikle and G. M. Morrow were appointed a nominating committee. President Stollenwerck then delivered the following address:

"In 1880, the pharmacists of Birmingham, through the earnest efforts of Mr. S. W. Gillespie, now deceased, founded an Association, known as the Jefferson County Pharmaceutical Association, and on the following year the Pharmacists of the State were called together in convention, and a State Association was formed. This was the beginning of our association, and it has steadily grown until it numbers over eighty active members; and is destined to become a powerful association for the advancement of the profession.

"The true use of chemistry is not to make gold, but to prepare medicines for the treatment of diseases, wrote the renowned Paracelcus. Do we not echo the sentiment? Pharmacy, like her sister science, the practice of medicine, has passed through many and varied epochs; struggling with superstition and combating successfully with ignorance and knavery. It is a beautiful profession, as well as scientific, and should not be entered upon without proper qualification and peculiar fitness, for we deal with the lives of our fellow beings. We should, therefore, strive with untiring energy to keep pace with its rapid progress, and this can only be done by constant research and experiment.

"We can do much by co-operation and determination. Let each individual member feel that it is his duty to exert every effort to elevate the status of his profession, and to assist in crushing out incompetent and unprincipled men, who so seriously retard the progress of pharmacy, and who seek for the love of pecuniary gain to prostitute the profession to a mere trade. Another mode of advancing the science of pharmacy is to form local associations. Every town and city in Alabama should have a society where original ideas may be exchanged and new remedies discussed, where means of advancement may be brought about, and good feeling and social spirit be promoted.

"The fact that so few counties have local associations is one reason why this association has not grown more rapidly, but I sincerely hope and confidently believe that before many years shall have passed ours will be regarded as one of the most useful in the State. The relation existing between the pharmacist and physician is inseparable, hence mutual protection is essential for the welfare of both. It is only a question of time when the pharmacist will be recognized as the co-equal of the physician, whose friend he is. Friends, the physician and pharmacist must be for mutual protection.

"Should the over-burdened disciple of Esculapius, in a moment of forgetfulness, write for a combination which might prove disastrous to the health of his patient, it is the duty of the pharmacist not to expose the error, as this would destroy the confidence of the patient and bring about unpleasantness, but to repair immediately to the former and have the mistake corrected.

"On the other hand, should the pharmacist, by an unfortunate accident, chance to make some mistake in filling a prescription, it is the duty of the conscientious physician, to the best of his ability, to screen him from condemnation, provided no serious consequences have resulted.

"We must remember that self-preservation is the first law of nature, and we should not ask of others that which we would not do for them.

"We should strongly deprecate the habit of counter prescribing, for it is not only a great injustice to the medical man, but also an injustice to brother pharmacists.

"We are but compounders and dispensers of medicines, and not diagnosticians, and if we infringe upon the rights of others, we can but expect retaliation."

The Committee on Nominations then made the following report, which was, on motion, adopted, and the officers elected unanimously:

A. L. Stollenwerck, President. J. B. Collier First, and J. L. Wikle, Second Vice-President. Philip C. Candidus, Secretary. Wm. F. Princh, Local Secretary. E. P. Galt, Treasurer. Executive Committee—G. M. Morrow, R. H. Wildman and John L. Rison. Delegates to American Pharmaceutical Association—P. C. Candidus, E. P. Galt, B. W. Williams, John R. Goldthwaite and R. K. McMiller.

The annual report was read by Secretary Candidus, and approved. The Treasurer's report was approved. Messrs. P. C. Candidus, Nabores and Gooden were appointed a Committee on Membership. The President was authorized to appoint a Committee on the Pharmacy bill, with power to make any necessary modifications. Messrs. Withington, Gooden and McMiller were appointed a Committee on Queries and Papers, after which the association adjourned to meet in Mobile, the second Tuesday in May, 1887.

ARKANSAS PHARMACEUTICAL ASSOCIATION.

The Arkansas State Pharmaceutical Association met at Little Rock, April 27, 1886 The meeting was called to order by President Bond, who delivered the following address:

"Gentlemen: In view of the comparatively small attendance which I anticipated for this annual session, I have not deemed it appropriate or desirable to consume the brief time at your disposal with a lengthy address. You are all quite familiar with the usual tone as well as the matter of such addresses, and I have no doubt that at least in this instance you will regard that duty as one better to omit than to perform. All thinking men fully understand that Associations like ours require to be carefully nursed, sometimes for years, before they take on vigorous growth. There being just so much time and effort required for the 'incubation,' we may as well undertake the labor now as to relegate it to our successors.

"Since we last met there have been thirty accessions to our ranks. We now number eighty members, representing twenty-four counties of the State.

"I present herewith a copy of a proposed pharmacy law for your approval; I suggest that it be perfected at an early day and laid before the approaching session of the general assembly, and that every honorable effort be made by all reputable druggists for its enactment. It is certainly a very liberal bill; applicable only to the cities and incorporated towns of the State, asking nothing incompatible with the interests of the public, and interfering with the rights of no honest druggist.

"The National Retail Druggists' Association is a body that should have the warmest sympathy of every honorable druggist. It has undertaken the task of curing evils that sap the life-blood of fair trade, and because we in Arkansas are not affected by the unbusiness-like methods prevailing in some States, is no reason we should not lend our aid to correct them. I suggest that the delegates chosen to represent this body in the American Pharmaceutical Association, be also authorized to represent us in the National Retail Druggists' Association.

"You should not fail to remember that in two years from this time steps will be taken to revive the Pharmacopœia. In that revision let Arkansas be represented. It is one of the highest and most honorable duties devolving upon medical men, and one in which practical pharmacists should have a voice. Our thinking men should ere long begin to crystalize their views deduced from their practical experience, on the question of improving the U. S. P. The door for intelligent suggestions will be wide open. One question that should have early and earnest consideration in my humble opinion is, 'Should the U. S. P. be revised every ten years.'"

The secretary's and treasurer's annual reports were read and, on motion, approved. The Executive Committee was, on motion, increased to to five. Messrs. J. B. Wilkerson, J. C. Cook, D. I. Mills, James W. Montague, J. W. Lightfoot and E. L. LeFevre were elected to membership.

The following officers were then elected: President, J. R. McDaniel; Secretary, J. R Colburn; Treasurer, E. P. Schaefer.

Messrs. W. W. Kerr, W. L. Dewoody, Dr. J. R. McDaniel, M. A. Elsele and Dr. C. J. Lincoln were elected delegates to the American Pharmaceutical Association and National Retail Druggists' Association, and $50 was appropriated to pay the expenses of the delegation.

The President was authorized to fill any vacancy.

Mr. W. Kerr, of Batesville, read a paper on "The Dual Character of the Pharmacist," in which he deprecated the practice of physicians prescribing semi-patent medicines, but claimed that the remedy for this lay in the hands of the druggists themselves, who, by proving their professional capacity to physicians, would secure the confidence of the latter. The physician who had confidence in the ability and integrity of the pharmacist would gladly use his pharmaceuticals; but this confidence was not bestowed upon ignorant, giddy, pleasure-seeking boys or men; only the sober, painstaking, studious man could hope to gain it.

On motion of Dr. J. W. Beidelman, the New York and Brooklyn Formulary was adopted by the association for the preparation of "unofficinal" formulæ, and the president and secretary were instructed to request the co-operation of all the physicians in the State.

The president then appointed the following committees:

Legislation—Messrs. J. R. McDaniel, C. J. Lincoln, M. E. Elsele. Trade Interests—Messrs. W. H. Halliburton, J. H. Soull, W. C. Weems. Pharmacy and Queries—Messrs. J. W. Beidleman, F. A. Tribble, E. R. Goodwin. Executive Committee—Messrs. J. H. Junking, O. K. Badgett, J. E. Gibson, W. L. Dewoody and G. W. Cabell.

The proposed pharmacy law was then referred to the Committee on Legislation with full power to act, after which the association adjourned subject to the call of the chair.

MISSOURI PHARMACEUTICAL ASSOCIATION.

Afternoon Session--First Day.

The eighth annual meeting of the Missouri State Pharmaceutical Association at Sweet Springs, was called to order at 3 P. M., June 15, 1886, by President Fleischmann, of Sedalia.

Mr. M. W. Alexander moved that the report of the committee on membership be adopted without reading the names. Dr. Pettit, Prof. J. M. Good and others objected on the ground that the applicants might be rejected if their names were known, but the motion was carried. The candidates for membership were on motion granted the privileges of the floor.

President Fleischmann then delivered his annual address

PRESIDENT'S ADDRESS.

He said that matters of scientific interest he would not discuss. He would make a few, not original, but important suggestions. The increased attendance at the meetings had been in no small measure due to the social features of the meeting.

The Committee on Entertainments would give full attention to these.

The question of first importance was pharmaceutical education. The standard of the profession should be elevated by strengthening and enforcing the pharmacy laws. In many places it was openly violated, and its enforcement could be best secured by the establishment of local organizations. Delegations should annually bring before the association the local questions of interest.

It was desirable that the membership be increased; to this end one member from each county and congressional district should be chosen to form a Committee on Membership.

The Committee on Legislation should act in conjunction with the Board of Pharmacy, and the Board should be required to report annually to the Association the names of pharmacists registered. The Committee should endeavor to secure the exemption of pharmacists from jury duty.

An endeavor should be made to legally require the appointment of the Board of Pharmacy from selections made by the Association.

A National Organization composed of delegates from each Association was the next needed link in the chain of protection.

A plan for reorganization of the N. R. D. A. would be brought before the Association and should receive earnest attention. The N. R. D. A. had undertaken to remove the insulting liquor license tax, and should be aided by every pharmacist in the State.

There should be appointed a Committee on Unofficial Formula to co-operate with the Committee of the American Pharmaceutical Association.

Fire insurance rates on drug risks were exorbitant, and measures should be taken to have them reduced. The delegates to the N. R. D. A. should be instructed to this end. No one should be made an apprentice unless possessed of a good English education. Apprentices should be encouraged to study pharmacy from a scientific standpoint.

N. W. D. A. was an Association which aimed to promote harmony between the two branches of the trade, and should be co-operated with.

A Committee on Exhibits should be appointed.

On motion the address was referred to a committee consisting of Messrs. P. H. Franklin, Marshall; S. A. Howard, Kansas City and J. S. Baker, Fulton.

Secretary G. H. C. Klie then made his annual report: The roll contained 537 names, and 183 new members had been initiated at last meeting. The last proceedings had been sent out in November, 1885, the most favorable time to send them and had cost much more money than any yet issued. The question of permitting advertisements in the proceedings should be considered; in any event patent medicine advertisements should be excluded. Copies of the proceedings had been sent to all State associations and pharmaceutical journals.

Treasurer Good reported a balance of $196.64.

The proposals of the N. R. D. A. Committee in regard to reorganization were referred to a committee, Dr. J. S. Baker, Dr. H. M. Pettit, and Prof. J. M. Good.

Mr. Chas. O. Curtman, Chairman of the Committee on Queries and Papers reported five queries had been accepted, and with four volunteer papers would be read in the order of business.

The report of the Committee on Trade Interests was then read by Mr. J. S. Moffitt for the Chairman, J. C. Richardson: It recommended the recognition of the fact that pharmacy was a profession as a means toward fair dealing. It recommended the passage of suitable pharmacy law amendments, and the elevation of the standard of pharmaceutical education.

Dr. J. S. Baker raised the question of further legislation which was postponed on motion. Mr. W. H. Whelpley made a report as a delegate to the N. R. D. A. and the A. P. A.

Chairman J. S. Moffitt, Chairman of the Committee on Entertainment, made a brief report of progress. He also, as Chairman of the Membership Committee, reported 131 applicants for membership. The Secretary's and Treasurer's reports were referred to the Committee on President's Address, after which the association adjourned till the following morning.

Morning Session--Second Day.

President Fleischmann called the meeting to order and after the minutes had been read the Secretary cast the ballot for the election of 135 applicants for membership. The Council reported that the Secretary's books had been found on examination correct. Next in order the following officers were elected:

President, Dr. H. A. Coffee, Carthage; vice-president, Mr. C. E. Corcoran, Kansas City; second vice-president, Mr. B. O. Wood, Monroe City; third vice-president, Mr. D. Y. Wheeler, Sedalia; secretary, Mr. G. H. C. Klie, St. Louis; treasurer, Mr. J. M. Good, St. Louis; council, G. J. Meyer, St. Louis; M. W. Alexander, St. Louis; H. C. Arnold, Kansas City; G. K. Hopkins, St. Louis; J. T. Plunkitt, Brunswick.

Messrs. J. S. Moffitt, St. Louis; C. C. Donaldson, El Dorado Springs and C. R. Gibbs, Mexico, were appointed Committee on Time and Place for next meeting. On motion Messrs. J. M. Good, St. Louis, J. H. Morrison, Independence and P. D. French, Kansas City, were appointed a Committee on Necrology.

The Committee on President's Address reported that all amendments of the pharmacy law except that relating to the exemption of pharmacists from jury duty, should be left to the Legislative Committee. Local organizations in every county were recommended and instructed to secure uniform prices, especially on patent medicines. They recommended that the Legislative Committee and Board of Pharmacy act jointly in securing amendments to the pharmacy law; that in case of vacancy in the Board of Pharmacy, the Association recommend suitable persons to the Governor. That the only action to be taken in regard to the N. R. D. A., was for the president to appoint a committee to act in conjunction with the N. R. D. A. Committee. That a Committee on Unofficial Formulæ should be appointed to confer with the A. P. A. Committee, and prepare suitable formulæ. That only suitably educated persons be employed as apprentices. The custom of sending delegates to sister associations was approved. That exhibitors should be encouraged to attend the Association meetings. In regard to the Secretary's report they recommended that a limited number of advertisements be inserted in the proceedings, and that the pharmacists and manufacturing chemists be given preference.

The report was discussed seriatim. The matter of exemption from jury duty was referred to the Legislative Committee. The clause in regard to the relations of patent medicines was stricken out and the rest adopted. The clause in reference to vacancies on the State Board of Pharmacy was referred to the Legislative Committee, and that in regard to formulæ was passed, and the report as thus amended was adopted.

Two Committees on Exhibits were ordered appointed; one to report at the end of the afternoon session. The association then adjourned.

Afternoon Session.

After the association had been called to order Messrs. Clay Arnold, Kansas City, J. H. Mertz, Sedalia and M. P. Hanson, Lexington, were appointed a Committee on Exhibits.

The Committee on Legislation then recommended that the laws be so changed as to permit registered pharmacists to administer (including poisons and alcohol) on emergencies, provided that this amendment should not be construed as making tippling saloons out of drugstores. That the pharmacist should be exempt from jury duty. Any attempt to secure legislation compelling the Governor to appoint the Board of Pharmacy only from lists selected by the association, would be fruitless. Every pharmacist should use his efforts to secure the election of members favorable to pharmacy legislation.

On motion Prof. Good read a paper on Pharmacy Legislation to open the discussion.

Dr. J. S Baker said that the paper only took one side of the question. There was no necessity of so much registration, resulting in registration fees. The welfare of the retail druggist needed more attention. There should be no necessity of taking out a retail liquor dealers' license to dispense liquor. The burden of the expense should be borne by the State, and increased power should be given the Board of Pharmacy.

Prof. Good said that registration did not mean re-examination. Money had to be raised in the way denounced by Dr. Baker or the law could not be enforced.

On motion the report was referred to the next Legislative Committee.

The Necrological Committee's report on the death of Messrs. Chas. Habicht, Henry Strassinger, D. P. Bruton and Jas. F. Hurst was then adopted.

The report of the Committee on Papers and Queries was then read by Dr. C. O. Curtman, and adopted.

Mr. Klie read an answer to Query 1, "Does Commercial Opium Conform to the Pharmacopœial Standards?"

Prof. O. A. Wall read a paper on "The Advisability of Making a Class of Preparations of Equal Doses from Drugs of Different Strength."

Dr. Chas. O. Curtman on the "Pharmaceutical Value of Expressed Oil of Indian Corn as a Substitute for Olive Oil."

Mr. J. H. Morrison on the "Reduction to a Minimum of the Accidents from Poisons"

Prof. Good suggested that bottles too large for the poison closet be protected by tying a large tough paper cap on the neck.

Dr. Curtman read a paper on "The Detection of Salicylic Acid in Lard, Ointments and Food."

Mr. Dan. Y. Wheeler read a humorous paper on the "Traveling Man."

Fraternal greetings were then exchanged with sister associations.

Mr. Geo. Merrell, delegate from the Ohio State Pharmaceutical Association, then briefly addressed the association on the subject of Pharmacy in Ohio.

The Committee on N. R. D A reported in favor of the proposed plan of reorganization. On motion the report was adopted and $25 appropriated for expenses.

The Committee on Exhibits then made a report thanking the exhibitors for their services in rendering the meeting interesting.

The Committee on Time and Place of Next Meeting reported in favor of Sweet Springs, the third Tuesday in June, 1887. The report was adopted and on motion Mr. L. Kuntz was elected local secretary.

The following standing committees were then appointed: Committee on Trade Interests—Geo. K Hopkins, St. Louis; P. D. French, Kansas City; Wm. E. Bird, Sedalia. Committee on Papers and Queries—Dr. C. O. Curtman, St. Louis; Jas. M. Love, Kansas City; Dr. O. A. Wall, St. Louis. Committee on Legislation—H. M. Whelpley, St. Louis; S. A. Howard, Kansas City; Dr. H. M. Pettit, Carrollton. Committee on Membership—Gustav C. Meyers. St. Louis; E. G. Orear, St. Louis; Bela Clark, Carthage; E. L. Waddell, St. Louis; C. Renfro Gibbs, Mexico. Committee on Entertainment—John S. Moffit, St Louis: Gustav C. Meyer, St. Louis; Wm. F. Ford, Kansas City; L Kuntz, local secretary, Brownsville. Committee on Transportation—M. W. Alexander, St. Louis; A. T. Fleischmann, Sedalia; C. E. Corcoran, Kansas City. Committee on Necrology—H. C. Arnold, Kansas City; P. H. Franklin, Marshall; C. L. Wright, Webb City. Delegates to American Pharmaceutical Association and National Retail Druggists' Association—H. M. Whelpley, St. Louis; J. M. Good, St. Louis; J. S. Baker, Fulton; G. H. Chas. Klie, St. Louis; J. H. Morrison, Independence. After which the Association adjourned.

EAST TENNESSEE PHARMACEUTICAL ASSOCIATION.

The East Tennessee Pharmaceutical Association met in Knoxville, May 11, 1886, and was called to order by the President, A. H. Yearger. Messrs. J. S. Jarnagan, Knoxville; Geo. Schorn, F. A. Adams, Leroy Wilson and J. F. Voigt, of Chattanooga, were elected to membership.

Secretary J. G. Rawlings reported the following additions to membership since the last meeting: Messrs. J. A. Campbell, E. J. Sanford, E. W. Crutch, R. E. Tompkins, J. D. West, G. W. Albers, D. Zbinger, A. Armstrong, W. J. Worsham, Knoxville. He also reported a balance of $54.87. His report was referred to Messrs. Albers and Spencer, who reported that the accounts had been audited and found correct.

Messrs. Rawlings, Albers, Yearger and Tedford then made remarks commendatory of the objects of the Association.

Fraternal greetings were received and exchanged with the Illinois and Virginia Associations, after which the Association adjourned.

SECOND DAY.

Mr. Yearger called the Association to order at 10 A. M. Mr. R. C. Bicknell was then elected a member of the Association. Mr. S. S. Wharton of Berry, Demoville & Co., of Nashville, made some remarks as a delegate from the N. W. D. A. He called attention to the desirability of the Association taking some action to secure legislation on the liquor tax question and on the poison regulation question. Dr. W. D. E. Hays, of Shippenburg, Pa., from the Pennsylvania Pharmaceutical Association, made remarks of a similar tenor.

On motion of Mr. Rawlings, the following resolutions were adopted:

WHEREAS, The National Wholesale Druggists' Association, through their delegate, Mr. S. S. Wharton, have requested the co-operation of this Association in its efforts to have the tax on alcohol reduced or abolished, therefore,

Resolved, That the East Tennessee Association is in full accord with the National Wholesale Druggists' Association, and will take such action and do all in its power to accomplish the end sought.

Mr. George W. Albers, Knoxville, moved "a committee of three be appointed to memorialize members of Congress to have the tax on alcohol reduced or abolished," which was carried, and Messrs. G. W. Albers, Knoxville; E. W. Tedford, Maryville, and J. B. Nicklin, of Chattanooga, were appointed such committee on memorial.

The question of re-organizing as a State Association was brought up, but action was postponed until delegates from Western and Middle Tennessee should be present. The question was discussed by Messrs. Tedford, J. A. McCampbell, Hays, Rawlings, Albers and Slocum, of Knoxville.

On motion of Mr. Al. A. Yearger, the Secretary was directed to publish the proceedings of the meeting, to issue circulars to the druggists of the State in reference to the formation of a State Association, and also urging on the druggists of East Tennessee the importance of membership in the association

Messrs. G. W. Albers, E. W. Tedford and W. H. Dalton were then appointed a Committee on Nominations, which reported as follows: For President, G. W. Albers, Knoxville; first Vice-President, Dr. M. Block, Chattanooga; second Vice President, E. W. Tedford, Maryville; Secretary and Treasurer, John G. Rawlings, Chattanooga. The report of the committee was on motion adopted, and the officers were all elected by acclamation.

Mr. G. W. Albers on taking the chair promised to do all that he could to make the East Tennessee Association solid. It might be made so if personal work and efforts were brought to bear. He urged on all to work earnestly.

A committee of three, Messrs. Slocum, Jarnagan and McCampbell were appointed to memorialize the State Legislature to enact an act to prescribe the manner of selling the sulphate and other preparations of morphine in this State and for other purposes, similar to the law passed by the legislature of Georgia and approved October 13, 1885.

On motion of Mr. J. G. Rawlings, Secretary, the following committee consisting of one member from each county in East Tennessee, was appointed on membership and organization.

J. A. Dickey, Bristol; John S. Mathes, Jonesboro; Dr. Boyd, Jonesboro; John McPherson, Bull's Gap; J. M. Pierce, Rogersville; Jacob Bewley, Limestone; John Carriger, Hamlin county; Dr. Sensabaugh, Strawberry Plains; O. B. Hill, Dandridge; A. R. Maples, Sevierville; Ramsey and Snoderly, Newport; P. M. Liles, Clinton; A. T. Newman, Newcomb; W. A. Dalton, Concord; M. R. Goans, Loudon; J. D. Beer, Kingston; J. H. Johnson, Sweetwater; Worth Strickley, Madisonville; J. B. Campbell, Athens; W. S. Hays, Calhoun; Pierce & Co., Charleston; Jno. T. Rogers, Cleveland; A. S. Cocke, Cog Hill; S. P. Legg, Decatur; J. G. Greer, Midway; J. H. Lowry, Riceville; B. F. Shultz, Tazewell; I. E. George, Rockwood; Johnson, Dayton; G. A. Elliott, Spring City; J. C. Abernathy, Rhea Springs; G. W. Howard, Ooltewah.

On motion of the Secretary, the following three delegates and three alternates were appointed to attend the next meeting of the American Pharmaceutical Association:

Delegates—J. A. McCampbell, Knoxville; E. W. Tedford, Maryville; L. H. Wilson, Chattanooga; alternates, Messrs. Al. A. Yeager, Knoxville; John T. Rogers, Cleveland; J. W. Slocum, Knoxville.

Mr. Tedford called the attention of the Association to Mr. Jarnagen's convenient machine for filing prescriptions.

On motion, Mr. John B. Nicklin, Chattanooga, was appointed delegate to the Pennsylvania Association.

On motion, the place of meeting of the Association was fixed at Cleveland, Tenn., second Tuesday in October, and Mr. J. T. Rogers, of Cleveland, was appointed local secretary.

Messrs. G. W. Albers, J. W. Slocum and C. J. Gooding, of Knoxville, were appointed a Committee on Papers and Queries, after which the Association adjourned.

TEXAS PHARMACEUTICAL ASSOCIATION.

The Texas Pharmaceutical Association met in Dallas, April 27.

Mr. George Katleyer, the President, being absent, Dr. Eisenlohr was elected chairman pro tem. After disposing of routine business, the association adjourned to 3 P. M.

Afternoon Session—First Day.

Dr. Eisenlohr called the association to order, and on motion the following officers were elected:

President, Geo. H. Rice, Bandera; first Vice-President, H. H. Carter, Abilene; second, J. W. Graham, Austin; third, G. A. Eisenlohr, Dallas.

Treasurer, E. W. Lancaster, Marshall.

Recording Secretary, W. L. Tucker, Waco.

The following committees were appointed:

Executive Committee—E. M. Wells, Fort Worth; W. P. Patterson, Dallas, and W. B. Morrison.

Committee on Notes and Queries—J. A. Cravens, Fort Worth; R. H. Hart, Georgetown, and G. Terrell.

Committee on Adulteration—J. P. Casimier, Calvert; W. H. Robert, Denison, and W. A. Paulson, Tyler.

Committee on Pharmacy Laws—E. M. Wells, Fort Worth; G. A. Eisenlohr, Dallas; P. H. Carter, Abilene.

Committee on National Retail Druggists' Association—F. L. King, Fort Worth; P. H. Carter, Abilene, and W. L. Tucker, Waco.

Trustees—T. W. Powell, H. L. Carter and J. W. Graham, whose terms of office will expire in 1887, 1888 and 1889, respectively.

The plan for the reorganization of the N. R. D. A. was

approved, and the above special committee was given full power to take any necessary action in the matter.

The question of a State pharmacy law was again brought up. The necessity of such a law was fully recognized. The failure of the bill to go through the last Legislature because of the machinations of its enemies in the committee room was discussed. Discussion of the pharmacy law was made the special order for April 28 at 11 A. M. The Committee on Pharmacy Laws was appointed to confer with a like committee from the State Medical Association.

The following gentlemen were then elected members:

Frank L. Bacon, Big Springs; H. C. Haynes, Milford; Walter Clyde Kinnion, Fort Worth; L. T. Gould, Baird; Eugene C. Eberle, Fort Worth; William Leonard George, Roanoke; Styan Cohen, Weatherford; O. Halliburton, Waco; O. T. Maxwell, Cisco; B. M. Clopton, Sr., Rice; R. L. McCoy, Calvert; Edward Rickwayel, Roundtop; Henry O. Cravens, Gainesville; R. H. Downman, Waco; J. P. Casimier, Calvert; George P. Lincoln, Brandera; W. G. Pierce, Bonham; W. H. Robert, Jr., Denison; J. J. Taylor, Richland Springs; R. W. Robertson, Winsboro; R. H. Hart, Georgetown; Wm. Reese, Canton; Wat O. Brickey, Ben F. Hudson, W. A. Prestridge, A. Y. Weaver, Alvarado; B. W. Fearis, Waxahachie.

The association adjourned to meet at 10 A. M.

Second Day—Morning Session.

The association was called to order at 10 A. M.

The Executive Committee then rendered the following report, which, on motion, was adopted:

"In submitting this, our annual report, we beg leave to state that owing to unforeseen and unusual difficulties the printing and issuing of the proceedings of our last meeting were delayed several months. We hope this delay will not occur again. We had at our last meeting, April, 1885, a membership of 122, and admitted 10 new members; 8 have been dropped from the rolls, for non-payment of dues, 3 have deceased, leaving in good standing at the beginning of this season 120. It is with deepest regret that we have lost from our Association Mr. J. G. Campbell, of Corsicana, a sketch of whose life will be printed with the proceedings of this meeting. It is with pleasure we can say that our Association is growing stronger year by year, and with patience and perseverance, we will yet accomplish our object." E. M. Wells, Chairman; W. B. Morrison, W. H. Murdock, Executive Committee.

Treasurer Lancaster reported a balance of $352.74. Messrs. W. H. Patterson, H. O. Cravens and W. H. Roberts were appointed a Committee on Treasurer's Report, who reported they had audited it and found it correct, which report was adopted.

Messrs. J. C. West, of Waxahachie; William Whitney, of Pilot Point; H. Q. Smith, of McKinney; Giles P. Cain, of Fort Worth, and Eugene H. Crowdus, of Dallas, were then elected to membership.

Congratulatory telegrams from the State Medical Association, in session at the same time, were then received, and Messrs. E M Wells, P A. Carter, J. W. Graham and G. A. Eisenlohr were appointed a committee to prepare a response. They reported as follows:

"That this Association return its sincere and heartfelt thanks to the Texas State Medical Association for its tender of hearty co-operation and support in all our efforts to elevate the profession of pharmacy in Texas, and that we will endeavor heartily and to the full extent of the influence of the Association to aid them in elevating the profession of medicine in Texas."

Which was adopted.

Mr. Samotz, of Austin, called the attention of the association to the practice of physicians entering into agreements with druggists to send them all of their prescriptions. He asserted that a prescription was the individual property of the patient, and he had a right to take it to any drugstore he pleased, without regard to the printed advertisements which may be on it. Many physicians use the prescription book of some drugstore exclusively. The patient, reading the name of such drugstore, goes to that store to have it filled, in many cases under the impression that no other druggist can fill it This was partiality.

E. G. Eberle rather advocated the practice from the standpoint of the physicians.

W. H. Patterson said that the people should be the exclusive judges of the competency of druggists. If they had no better sense than to patronize an incompetent man, who did not know the difference between prepared chalk and prussic acid, they ought to die from poisoning.

Mr. Eisenlohr said that, after all, medicine was based largely on a matter of faith, but he was willing to leave off druggist advertisements from the prescription tabs, and let the patient start out with the whole field before him.

The discussion was continued for some time, after which the association adjourned to 2 P. M.

Second Day—Afternoon Session.

After the association was called to order, Mr. O. Samotz brought up the liquor question. Pharmacists had to pay a license of $450 a year to sell even medicated whiskey. The law was enforced in Austin. Whiskey was just as much a drug as quinine The legislature should pass a law exempting pharmacists from this tax, or considerably diminishing it.

W. H. Patterson said that he entirely agreed with Mr. Samotz. The interest of the law was to prevent whiskey being sold by liquor dealers under the guise of pharmacists; but it was a failure, for the people who come to drugstores for a drink of whiskey never pay for it.

Mr. Lancaster said that at every association meeting this liquor question was brought up. The association should secure the passage of a pharmacy law, and then attack the whiskey question.

W. S. Blackshear said that so few of the Texas pharmacists were members of the association that a petition from the association would represent so insignificant a number of persons as to arouse the ridicule of the saloonkeepers.

O. Samotz said that morphine and opium were more dangerous to humanity than whiskey, and he asked that the legislature be memorialized to make the sale of these drugs, except upon the prescription of a physician, a penal offense.

It was decided that a special meeting on the liquor question be held after the regular session. The Committee on N. R. D. A. then rendered the following report, which was adopted:

Your committee to prepare an answer to the communication of the National Retail Druggists' Association, would respectfully report: 1. The committee from lack of information are not prepared to recommend that this Association formally indorse the National Retail Druggists' Association. 2. We recommend that the Association elect or appoint a delegate to the next meeting of the National Retail Druggists' Association, to fully inform us at our next meeting of the objects of said Association. [Signed], P. A. Curtis, F. L. King, W. L. Tucker, Committee.

Mr. Morrison was then elected delegate to the N. R. D. A. and the A. P. A. Fort Worth was chosen as the next place of meeting. On motion of E D. Oesch, the New York and Brooklyn formulary was adopted by the association. Messrs. J. M. Hobson, Allen; W. A. Baird, Ferris, and J. H. Berry, Sherman, were elected members.

On motion of Mr. Cravens, the treasurer was directed to keep a register of drug clerks seeking employment, charging fifty cents for each registration. The association then adjourned to 10 A. M.

Third Day.

After the association had been called to order, Russell Easterling was elected to membership.

Mr. Cravens said the association devoted too much time to routine business and too little to pharmacy.

Mr. Samotz said the association was there for business.

The second Tuesday of May, 1887, was chosen as the next time of meeting.

The Committee on Papers and Queries failed to put in an appearance, and Messrs. Shook, Cravens, Samotz, Terrell, Patterson, Carter, Blackshear and Roberts agreed to furnish papers for the next meeting

The liquor question was then discussed by Messrs. Blackshear, Samotz, Carter, Tucker, Wells and Patterson, after which, on motion, Messrs. Samotz, Carter and Eisenlohr were appointed a committee to prepare a report on the liquor question for the next meeting.

The association then adjourned.

The Iowa Commission of Pharmacy held three sessions a day (and night) at Des Moines May 5, 7 and 8. Present, ex-Commissioner Weaver, Commissioners Pickett, Crawford and Schafer. The new board adopted new by-laws by which they were enabled to select a secretary and treasurer outside of their own membership. Mr. C. A. Weaver, of Des Moines, was then elected to that office. The Des Moines Register, commenting on this action, says: "During the past few weeks there has been a general expression of regret from druggists all over the State that Mr. Weaver had not become a candidate for reappointment, and the news of his retention to this important pos will be greeted with satisfaction among the ranks everywhere. It is a highly responsible position, being practically that of executive officer of the Commission, and Mr. Weaver's experience eminen ly fits him for the work." Mr. R. W. Crawford was elected president and Mr. J. H. Pickett vice-president of the new board The co-equal powers of the Commissioners being undisturbed, Mr. Geo. H. Schafer, the senior Commissioner, will be no less active in the future than in the past.

NEW JERSEY PHARMACEUTICAL ASSOCIATION.

SIXTEENTH ANNUAL MEETING.

The sixteenth annual meeting of the New Jersey State Pharmaceutical Association was called to order in the Newark Metropolitan Rink, May 19, 1886, by President Wm. M. Townley, who introduced Mayor Jos. E. Haynes, who delivered a cordial address of welcome. Newark, he said, was a city noted for its many manufactures and its few hotels. He felt peculiar satisfaction in addressing so representative a body of New Jersey citizens whose especial object was the protection of society. Drugstores had proved more potent against anarchy than policemen's clubs and bullets. He invited the association to visit the local manufactories, some of which even made Turkish goods for the Turks. The manufacture of a combination of hops and malt was a prominent one, and it might be desirable for members of the association to make the proper test of this preparatory to recommending it to their patients.

Mr. Brant, chairman of the Committee on Programme, announced a sail on the Passaic; a visit to the celebrated vineyards and kennels; at eight a promenade concert would be given till ten o'clock, when a banquet would be served, and there would be a dance—"square for the gentlemen, round for the ladies;" other arrangements had been made to enable the members to pass the time between the meetings pleasantly.

Mayor Haynes here incidentally called attention to the desirability of the members uniting to secure a good water system for the whole State.

President Wm. M. Townley then delivered his address:

PRESIDENT'S ADDRESS.

He called attention to the fact that the Association had been the first to ganized in the United States, and its ideal of giving the pharmacists calling a higher prestige and loftier position was being successfully accomplished. To be one of its members was, at the present day, no small honor and benefit. Progress in science had resulted from the inter-communication of ideas—first by signs, and then by words. The constitution provided that the President should make a report of progress which should be done through the reports of the standing committees. The report of the Publication Committee had appeared in good season. The Committee on Papers and Queries had been crippled by the long-continued illness of its chairman, who was at length compelled to resign. Mr. August Drescher had taken his place and promptly issued a valuable and interesting list of Queries for the present meeting.

The address recommended that the Committee on Queries and Papers be made a constitutional committee, whose duty should be to prepare and issue a list of queries six months before the annual session, followed within a suitable time by a second list as a reminder.

The Legislative Committee's report was, the speaker said, very satisfactory.

The pharmacy bill prepared by the Association had through the ability and self-sacrifice of the chairman, passed the legislature with but few modifications. The Treasurer from a sense of duty, had served as such officer since 1870, declining higher offices. The State Board of Pharmacy had proven worthy of the Association which gave it life.

The New act provided for the appointment of a new board of five members selected by the Governor from a list of fifteen furnished by the Association, to serve one, two, three, four and five years respectively. Thereafter the Association would annually select five names in the same manner from which one would be selected by the Governor to fill a vacancy. The act seemed to be compact, simple and free from unnecessary restrictions. One clause from the bill proposed a year ago could, with advantage, be added to it,—the clause directing that a pharmacist out of practice for five years should be liable to re-examination and re-registration at the discretion of the board. Re-registration of pharmacists at stated periods would accomplish the same object, and bring about a revision of the list of registered pharmacists and result in a complete official list.

Every registered pharmacist owed it to himself and his brethren of the profession to become a member of the Association. The Association was not, as unfortunately seemed to be the opinion of many pharmacists, a close corporation, a mutual admiration clique; such people should remember that, as Horace Greeley said on one occasion, it was easier to be out of office and pick flaws than to be in office and make a constant defense against attacks. The Association had shown no tendency to self glorification; from the outset its most active members had been single-minded, self-sacrificing men. The young men, especially the college men, should be brought in, as their enthusiasm would freshen the zeal for science.

A Committee on Membership should be formed, whose duty it should be to send to persons eligible for membership a simple, clear appeal accompanied by a blank application for membership.

Some years ago provision for life membership had been attempted, any member of ten years standing could become a life member on payment of $8.00; of five years standing on payment of $9.00.

The question of Entertainment at the annual meetings was not as definitely settled as it should be. Many places were deterred from inviting the association on account of expense. Hospitality was not to be judged by its extent but its character he would therefore recommend that the Local Committees be granted full power to arrange for a one, two, or three days' meeting, so as to graduate the expense. The association annually appropriates an amount sufficient for rent of the meeting rooms; hence other expenses are determined by the local pharmacist.

Jury duty was a question requiring consideration. The responsibility acquired under the new pharmacy act was as great as that by reason of which others were exempt from jury duty. The matter should be looked into by the Legislative Committee. He reserved consideration of other important matters for the usual course of business. An Exhibition Committee should be appointed early in the session to do full justice to the exhibitors.

Since the last meeting, Messrs. Othniel, Grazam, Taylor and S. T. Rinled had died. Sketches of their lives had been received and referred to the proper committee.

The President then thanked the Association for the honor conferred on him and counseled united action for the benefit of all.

On motion Messrs. A. P. Brown, H. O. Ryerson and Thos. P. Whitenack were appointed a Committee on President's Address. The reading of the minutes, on motion of Mr. Brown, and the roll call (as the necessary quorum was present), on motion of Mr. Vandervoort, were dispensed with.

Treasurer Wm. Rust reported a balance on hand of $514 21.

Messrs. W. R. Laird, A. P. Brown, Jacob Betzler, Randall Rukey and Chas. Holzhauer were appointed a Nominating Committee. On motion of Mr. Holzhauer, after recommendation by the President, all delegates from other associations, and pharmacists present, were invited to participate in the association's deliberations. The President, being called away, asked the vice-president to take the chair.

The following report was in substance then rendered by the Legislative Committee:

REPORT OF THE COMMITTEE ON LEGISLATION.

The committee had held a meeting in Trenton during January, and decided that in consequence of the introduction in the legislature of a number of bills adverse to the interest of pharmacists; the proposed pharmacy bill should be pressed as a substitute, for all. The original draft was submitted to legal criticism and altered in accordance therewith. The most important changes respected penalties, Fine or imprisonment or both were provided for at the court's discretion for the second offense. The poison clause penalty was fixed at ten dollars. These charges greatly diminished the difficulty of enforcing the law. The red poison-label clause was so modified as to embrace the good features of two other bills introduced in the Assembly. The proposed law was then introduced into the Senate by Senator Fish; with the idea of holding back bills already introduced in the Assembly by calling attention to the fact that New Jersey Pharmaceutical Association bill had been introduced. It was also believed that if the bill passed the Senate it would have a better chance in the Assembly than if it were an Assembly bill.

Four bills affecting the interests of pharmacists had been introduced in the Assembly. One required a tri-monthly re examination of pharmacists; it was never heard of again. A bill requiring manufacturers to label all morphine preparations with a white lettered scarlet label was neither opposed nor recommended by the committee, but was amended to include all morphine preparations kept in stock; it was killed in the Senate

A bill introduced by Dr. Baird, of Warren, at the request of an Assistant Assembly Journal Clerk; a physician who desired registration without examination, made the diploma of a regularly incorporated medical college sufficient for registration. On explanation of the injustice of the bill, Dr. Baird consented to kill it. The fourth bill required that all poisons named in a schedule should be kept in receptacles labeled "poison" under lock and key, only to be unlocked by a registered pharmacist. The bill was opposed as resulting in unnecessary expense and interfering with the use of the mineral acids in the arts. These defects being explained to the introducer of the bill, he had it laid over on its third reading, and it never revived.

The chief effort was devoted to passing the Association's bill which, on the second reading, was loaded with amendments tending to emasculate it. Consultation with the introducers of these amendments resulted in acceptable substitutes. The word "Agriculture" was so inserted in the poison clause as not to interfere with the sale of insecticides, although this would seem to be provided for under the word "Arts."

One-half mile was substituted for "Two miles" or more remote from a registered pharmacist. This substitute was accepted only when it was obvious the bill would otherwise pass without qualification of the term "rural district."

The physician—Senator—who offered an amendment making medical diplomas sufficient for registration, finally admitted that it was unjust to place medical college graduates (homœopathic, eclectic, electric, etc.), who might not know one drug from another on a par with graduates in pharmacy, required to have four years' experience. In such case young men would prefer to spend two years in order to be able to practice both medicine and pharmacy and pharmaceutical education would be at a discount. The amendment finally put medical colleges on the basis of pharmacy colleges.

The poison sale registration clause was struck out before the second reading. The bill was reprinted and then passed to the Assembly. Amendments there made, emanating from the physician assistant Assembly Journal Clerk, were opposed by Drs. Baird and Roe (who said competence to prescribe medicines did not imply competence to compound them), and were voted down; the bill passed, was signed by the Governor April 5, and became a law.

The Secretary and Messrs. R. A. Van Sant and C. S. Cox ably aided the committee. The bill was the more respected, because it emanated from the Association. Frequent visits to the capital were necessary, and the total expenses were, $42.55. The law, while not an ideal one, will compare favorably with any other.

[Signed. Chas. Holzhauer, W. R. Laird, R. W. Vandervoort, A. P. Brown, H. P. Reynolds, and Wm. M. Townley].

Mr. Holzhauer, in conclusion, added that this was merely an outline of the routine work. The law should be thoroughly discussed so as to be thoroughly understood by the

members of the Association, and its value to the public at large brought out. This act closed the ninth year of the life of the pharmacy board, which was long regarded by many pharmacists from a purely selfish financial aspect. Pharmacists are often enabled to see that a pharmacy bill benefits them since it did not directly diminish the number of pharmacists in the State, but as it diminishes the number of incompetents it must benefit the profession financially and raise it in the esteem of the public.

On motion of Mr. Rust, the report was received with thanks and ordered printed.

Mr. Holzhauer was surprised that no one asked questions. It could not be that every one thoroughly comprehended the law.

Mr. Drescher said that time was limited and that the law had to be seen in a printed shape. Mr. Holzhauer had had plenty of time to work it out; the rest wanted to study it before asking questions.

The law is as follows:

NEW JERSEY PHARMACY ACT.

An act to regulate the practice of pharmacy in New Jersey.

1. Be it enacted by the Senate and General Assembly of the State of New Jersey, That from and after the passage of this act, it shall not be lawful for any person not a registered Pharmacist, within the meaning of this act, to conduct any store of Pharmacy for retailing, dispensing or compounding drugs, medicines or poisons, or for any one not a registered pharmacist to prepare and dispense physicians' prescriptions, or to retail or dispense medicines or poisons, except under the immediate supervision of a registered pharmacist.

2. And be it enacted, That on or before the first day of June next, the New Jersey Pharmaceutical Association shall submit to the governor the names of fifteen pharmacists doing business within this State, from which number the governor shall appoint five persons, who shall constitute the board of pharmacy of the State of New Jersey, and who shall hold office for the terms of one, two, three, four and five years, as designated in their respective appointments, and until their successors shall have been appointed and qualified; the New Jersey Pharmaceutical Association shall annually thereafter nominate to the governor five pharmacists, of whom the governor shall appoint one to fill the vacancy annually occurring in the said board, who shall hold office for five years and until his successor shall have been appointed and qualified; any vacancy occurring in said board shall be filled by the governor for the unexpired term from among the persons last nominated to him; each person so appointed shall, within thirty days after appointment, take and subscribe an oath, before any officer authorized to administer oaths in the State, that he will faithfully and impartially discharge the duties prescribed by this act.

3. And be it enacted, That the Board of Pharmacy shall organize by electing a president, a secretary and a treasurer, and shall have power to make by-laws and rules for the proper fulfillment of its duties under this act: it shall meet at least once in three months alternately in the cities of Paterson, Newark, Trenton and Camden, and shall give thirty days' notice of the time and place of such meetings; it shall examine into all applications for registration, and grant certificates of registration to pharmacists having diplomas from colleges of pharmacy, granted on four years' practical experience, and to such other persons as it shall judge, on examination, to be properly qualified to practice pharmacy; it shall keep a book of registration, in which shall be entered the names and places of business of all persons registered under this act, and shall also keep a book of record of all its official transactions, which book shall be legal evidence of such transactions in any court of law; it shall have power to examine into all cases of alleged abuse, fraud and incompetence, cause the prosecution of all persons not complying with the provisions of this act, and suspend or revoke the registration of any person legally convicted of violating the same; it shall report annually to the governor and to the president of the New Jersey Pharmaceutical Association upon the condition of pharmacy in the State, which report shall embrace a detailed statement of the receipts and expenditures of the board; the members of said board shall receive the sum of five dollars for each day actually engaged in this service, to be paid from the fees and penalties collected under the provisions of this act, and all moneys thus collected by said board in excess of said per diem allowance and of the necessary expenses of said board shall be paid to the treasurer of the New Jersey Pharmaceutical Association at its annual meeting; three members of the board shall constitute a quorum.

4. And be it enacted, That every person applying for registration under this act shall furnish satisfactory evidence that he has had at least four years' experience in the practice of pharmacy, and pay to the treasurer of the Board of Pharmacy a fee of five dollars, and, upon passing an examination satisfactory to said board, he shall receive from said board a certificate of registration; in case of failure to pass a satisfactory examination, the applicant shall be granted a second examination (without the payment of another fee) at any time within six months from his first examination; the registration fee to pharmacists having the diplomas mentioned in section three shall be two dollars; every pharmacist owning or conducting a pharmacy or store shall conspicuously display his certificate of registration in said pharmacy or store, and any failure to do so shall be prima facie evidence that such person is not a registered pharmacist.

5. And be it enacted, That any person who shall procure or attempt to procure registration for himself or any other person under this act, by making or causing to be made any false misrepresentations, or fraudulently representing himself to be registered, or shall adulterate or sell any adulterated drug, medicine or chemical, or who shall otherwise violate the provisions of this act (except section six), shall be deemed guilty of a misdemeanor, and, upon conviction thereof, be liable to a penalty of not less than fifty or more than one hundred dollars, and for any subsequent offence or offences, a like fine or imprisonment, not to exceed six months, or both, at the discretion of the court.

6. And be it enacted, That it shall not be lawful for any person to retail or dispense any of the poisons enumerated in schedule A appended to this section, or any other substance, commonly recognized as a deadly poison, without distinctly labeling with a red label the bottle, box, vessel or wrapper in which such poison is contained with the name of the article, the word "poison" and the name and place of business of the dispenser, nor without being satisfied that the purchaser is aware of its poisonous nature and intends to use it for a legitimate purpose; nor shall it be lawful for any person to sell any poison enumerated in said schedule A without, before delivering the same to the purchaser, causing an entry to be made in a book to be kept for that purpose, stating the date of the sale, the name and address of the purchaser, the name and quality of the poison sold, the purpose for which it is represented to be wanted and the name of the dispenser; such books shall be preserved for at least five years from the date of the last entry, and shall be always subject to the inspection of the proper authorities; any person failing to comply with the requirements of this section shall be deemed guilty of a misdemeanor, and for every such omission shall be liable to a fine of not less than ten dollars; and any person who shall give a fictitious name or who shall make any false misrepresentation to the seller when buying any of the poisons thus enumerated, shall be deemed guilty of a misdemeanor and be liable to a fine of not less than ten dollars; the penal provisions of this act shall not apply to the sale of such poisons as are used in the arts, or in manufacturing, to persons known to be engaged in such pursuits, nor to the dispensing of poisons upon the prescription of a practicing physician:

SCHEDULE A.

Arsenic and all its compounds or chemical derivatives; corrosive sublimate and other poisonous derivatives of mercury; phosphorus and its poisonous derivatives; prussic acid and its poisonous derivatives; tartrate of antimony; essential oil of bitter almonds; oils of tansy, savin or croton; chloroform, chloral-hydrate, aconite, belladonna, conium, cantharides, digitalis, hyoscyamus, nux vomica, Indian hemp, veratrum viride, yellow jessamine, opium, ther alkaloids or other preparations (except paregoric and other preparations of opium having less than two grains to the ounce); ergot, savin, cotton root and their preparations.

7. And be it enacted, That nothing in this act shall be construed to apply to or in any manner interfere with the strictly professional pursuits of any physician, nor with the making or vending of patent or proprietary medicines, nor with the sale of simple domestic remedies by retail dealers in rural districts two miles or more remote from a regular pharmacist, nor with the ownership of any pharmacy or store in part or whole by any person not a registered pharmacist; provided, such pharmacy or store be at all times in charge of a registered pharmacist; and any person holding a certificate of registration granted under any former act shall be considered a registered pharmacist within the meaning of this act.

8. And be it enacted, That each and every fine imposed under this act shall be paid to the treasurer of the Board of Pharmacy.

9. And be it enacted, That this act shall be a public act and shall take effect immediately; provided, that the organization of the board as prescribed in section three hereof may be had and effected at any time within thirty days from the date of the appointment of its members by the governor.

10. And be it enacted, That all acts and parts of acts conflicting with this act are hereby repealed.

The report of the Committee on Publication (Messrs A. P. Brown, W. P. Reynolds, Wm. Rust, R. W. Vandervoort and R. H. Van Saut), was then read to the effect that three hundred copies of the 1885 proceedings had been printed and sent to the various Colleges of Pharmacy, State Pharmaceutical Associations and public libraries, at an expense of $96.12.

The State Board of Pharmacy then reported that since the last annual report thirteen meetings had been held. The total number of applicants was 100; of whom twenty-nine passed by examination; nineteen were registered by diplomas; fifty-two were rejected. The total number of registered pharmacists in New Jersey was now 1,239. During the year eighteen out of forty-two persons had sustained the first examination; seven out of nineteen the second; three out of eight sustained a third; one out of four a fourth and one applicant was rejected after a fifth examination, making the total rejections fifty-two. Mr. Mangold, for five and a half years a member of the Board and its Secretary, had resigned. Mr. R. W. Vandervoort was elected secretary, but Mr. Mangold's place remained unfilled. May, 1881, $75 was transferred from the Association to the Board to prosecute offenders against the pharmacy act. Suit was begun in the Jersey City District Court against Wm. W. Campbell, then in business in Jersey City, who had been examined several times by the Board but had always failed. Judgment was rendered against Campbell in the sum of $50. The case was appealed, but the Supreme Court and Court of Errors affirmed the judgment of the lower court. The judgment, amounting to $126, was then paid by Mr. Campbell, who had continued in business throughout the long litigation. While judgments against Mr. Campbell could have been piled up, there was no way of preventing him practicing pharmacy. Mr. Wm. Rust, Treasurer of the Board, had a balance of $23.

The report, on motion, was accepted as read.

It was then moved to adjourn, but before putting the motion the President requested the Standing Committees to meet at the Continental Hotel during recess, and also called attention to the fact that this committee had the names of fifteen persons, which were to be presented to

the Governor. On behalf of the committee he suggested that any who had names they would like presented to the Governor should hand them into this committee for their consideration. The Association then adjourned till 2 P. M.

AFTERNOON SESSION.

The Association was called to order at 2 P. M. by the Vice-President, who requested, on behalf of the Secretary and Committee, that the members would all sign the register and procure a badge.

Credentials of delegates were then received from the Connecticut and Pennsylvania Pharmaceutical Associations, the National Wholesale Drug Association and from Messrs. H. O. Ryerson, N. L. Thorne and A. M. Linnet, of the National Retail Druggists' Association.

The resignation of Mr. Joseph P. Canby, of Clyde, N. Y., was on motion accepted. On motion of Mr. Laird, a letter from E. P. Nichols was referred to the Publicati'on Committee.

On motion, at the request of C. C. Williams, of Boston, Mass., of the Massachusetts College of Pharmacy, the Publication Committee were ordered to furnish the College with missing volumes of the transactions as far as possible.

Mr. E. A. Sayre, delegate to the New York State Pharmaceutical Association, then reported that as delegate of the Association he had attended the New York Association and found himself in excellent company.

REPORT OF DELEGATE TO THE N. Y. D. A.

Representatives were present from the National Wholesale and National Retail Drug Associations, the Connecticut, Massachusetts and Pennsylvania Associations, besides delegates from local county Associations, in all to the number of 100. The first matter of interest was the discussion of "Trade Interests," the Committee on which had kept every druggist so well informed that there was an animated discussion. The exertions of the Committee had resulted in the large representation. This Committee reported that their secretary, Mr. Holmes, had sent a strong circular to the druggists of the entire State urging local and county organizations. The counties were also canvassed; the name of one prominent man selected to whom an additional circular letter urging county organization and representation in the coming meeting of the N. Y. Phar. Asso. Committee on Trade Interests. Numerous replies were received and much enthusiasm seems to have been aroused. The meeting was held in Congress Hall, Saratoga. It was shown that little had been done in establishing uniform prices in large cities, but that organization had done much for small places. The opinion was pretty generally expressed that cutting of proprietary remedies under a drug sign meant a bar behind the scenes. The opinion was also expressed that the New York State Pharmaceutical Association should name a committee of five to organize county associations where none exist. The reorganization of the N. R. D. A. was discussed, and the opinion expressed that the organization would prove more effectual upon a basis of representation by States. It was resolved that the Executive Committee of the N. R. D. A. should be respectfully requested to consider this plan. In Broome county a price mark designating the price of prescriptions is in use, and has secured uniformity of prices. Prices seem to be the uppermost question in the minds of pharmacists. It was recommended that a committee of three be appointed from each county to aid the Committee on Organizations.

The question of drugstore insurance, as well as Mr. Kline's paper on the subject, were recommended for consideration.

The adoption of the New York and Brooklyn Formulary was then urged as a matter of "Trade Interests."

This report signed by the committee was then discussed, and its recommendation adopted by the Association. The report was inserted in Mr. Sayre's report as containing suggestions which might be made of value. The county organization system, drugstore insurance system, reorganization of the N. R. D. A. all involved questions of great importance.

The visit to Mt. McGregor by the New York members was of peculiar interest, as having occurred during the last illness of General Grant. He was seen alternately sitting and pacing the porch; three little twelve-year-old girls were tearfully presenting him with daisies; near by were Col. Grant, Ulysses Jr., Mrs. Sartoris and the General's body servant; while at the extreme end of the porch were Drs. Douglass and Sands in consultation. The picture was one not likely to be forgotten in a lifetime.

The President then called on members of sister associations for any communication they might desire to make.

Mr. Paddock, delegate from the New York State Pharmaceutical Association, alluded to the intellectual stimulus which was produced by gatherings of pharmacists. The Kings County, N. Y., association, of which he was a member, was one of the largest in the country, and he greatly regretted to miss a meeting. The Mayor had spoken of the desirability of pure water. Any one who sold as much pure water as the pharmacists did, at 10 cents an ounce, ought to be willing to give the best. If good water was to be drank, it was desirable to have good water, even if it was necessary to drink it in beer. It was to be hoped the water the Mayor proposed to have should be good to mix with malt and barley.

Mr. Thos. F. Maine, delegate from the Connecticut association, said he had been charged with kindly greetings, and he desired to call their attention to the desirability of securing a reduction of the tax on distilled spirits.

Mr. L. E. Nicot, delegate from the Kings County Pharmaceutical Society, said it was not the custom of his society to have its delegates enlighten others, but gather from them pearls of wisdom for dissemination among the Brooklyn lesser lights. He thanked the association for the warmth of its greeting.

Mr. Thorne, delegate from the N. R. D. A., said he had been asked to see that the Association send a delegate to the September meeting at Providence. He asked Mr. Sayre to explain the objects of the N. R. D. A.

Mr. Sayre said that the subject would be thoroughly ventilated when the N. R. D. A. was reached in the course of business.

Mr. Thos. P. Maine, delegate also from the National Wholesale Drug Association, said that the association was devoted to the elevation of the drug business in its wholesale character. He was charged with friendly greetings. He had also been requested to bring before them the question of the reduction of the tax on distilled spirits, and to have a committee appointed to examine into the question, which certainly was of great importance. But few pharmacists knew the amount of tax on spirits they were paying. A barrel of alcohol is sold by the manufacturer for $95.68; the Government gets $77.40 of this, while but $18 28 remains for the manufacturer. Here is an opportunity for the Government to carry out its present policy of taxation reduction, since at least 50 per cent. of the alcohol produced was used in the arts under existing circumstances. Innumerable manufactories would use alcohol were it not for the tax which prevents its use. Most civilized nations which tax alcohol resort to some procedure to reduce such tax when alcohol is used in the arts. In Great Britain a 10 per cent. methylated alcohol was exempt from tax. In Germany the tax on alcohol was refunded when the alcohol was used in the arts.

Mr. Holzhauer wished to know whether the reduction proposed by the N. W. D. A. was intended to cover alcohol alone, or all distilled liquors and spirits.

Mr. Maine said that the tax was on distilled spirits. Alcohol, as distilled spirits, was taxed 90 cents per proof gallon. In 1864 the tax was $2, while in 1862 it was 20 cents.

Mr. Holzhauer said that he asked the question because, while it was undoubtedly true that alcohol was taxed enormously, the Government had claimed that it was unable to distinguish between alcohol and liquors. If that were so, the pharmacists would be placed in the position, before the public, of seeking the reduction of liquor taxes to secure greater profits, giving the impression that pharmacists were rumsellers in disguise.

Mr. Drescher said that Mr. Holzhauer did not seem to grasp the question. Mr. Maine advocated the reduction of the tax on alcohol used for manufacturing purposes. In making tinctures, dilute alcohol—not rum, nor whisky, nor brandy—was used. Mr. Holzhauer surely could not think that rum was used. Tinctures and other alcoholic preparations are made with dilute alcohol. Reduction of taxation on alcohol and other things was desired. Reduction made on one point would be effectual in others. Not one pharmacist out of a hundred sold enough liquor to make the business a prodigious one. The liquor question has nothing to do with the subject.

Mr. Holzhauer said he agreed thoroughly with all that had been said, but did not understand how, in reducing the alcohol tax, they could do otherwise than reduce the tax on distilled spirits generally. He was well aware that alcohol, and not liquors, was used in making tinctures. He did not wish to be misunderstood by the public, and be sneered at as having a desire to sell liquors without paying taxes. He was in favor of the appointment of the committee, and would co-operate fully, but wished to have the pharmacists' position placed clearly before the public.

Mr. McIlhenny said that methylated spirits were not, in his opinion, used in pharmacy, but in the arts. The English used grain spirit in medicinal preparations.

Mr. Drescher said that methylated spirits are out of the question. The N. W. D. A. delegate was, in his opinion, right, and as there should be a committee to investigate the subject, he would move its appointment.

The motion was carried and the committee appointed.

Mr. Holzhauer asked if it were understood that this committee was to work in conjunction with the N. W. D. A. He had thought that there was a possibility that delegates might be sent to the N. R D. A.

Mr. Maine thanked the association for appointing the committee on this question, and said that the N. W. D. A Legislative Committee would gladly render all necessary assistance to the committee.

Mr. Brown, on the report of the Pennsylvania Association being called for, said it was ready and would be later referred to the Publication Committee.

In order to bring the question of the reorganization of the N. R. D. A. before the association, it was moved that the proposed plan be indorsed.

Mr. Nicot, in discussing this, said that at a recent meeting of the National Association it was deemed wise to reorganize it on a more representative basis. A limited number of delegates were to be annually sent to a Convention of Retail Druggists. Each State association was to defray its delegates' expenses, so as to insure their presence at a representative body of the retail trade. Favorable action on resolutions to this effect had been taken by several State associations. The expenses would be but nominal, and the benefits derived would more than repay the association.

Mr. Ryerson was in favor of adopting the proposed plan, but the position of each voter on the question should be exactly set before the association. The great trouble had been that, in connection with trade interests, State and National associations had been at loggerheads. Concerted action was needed, as well as the power of the press. Very frequently the prevention of cutting prices was looked upon as the chief function of the National Retail Druggists' Association. The tax on alcohol could be reduced by conserted action on the plan indicated. If the committee on the alcohol tax were, for example, to advise a certain course, the three delegates could go to the N. R. D. A. prepared to exert a great influence for it. Here the influence was local and limited. There the pharmacists of New Jersey were equally represented in the largest body in the United States.

Mr. De Forest was of opinion that the proposed reorganization plan was wise so far as it went, but it did not go far enough Not only from the State associations already in the N. R. D. A. should delegates be chosen, but also from other State and Territory associations. Under the proposed system, expenses being paid by the State association, every State would be represented, whereas at present delegates from the nearest points only were likely to be present. Like the previous speaker, he was of opinion that too much stress had been laid on the function of the N. R. D. A. to regulate price-cutting. The association was devoted to the consideration of all "trade interests." The State associations should themselves be made more truly representative. Three of the wisest men should be selected as delegates. Were he a member of the association he would vote for the proposed plan.

Question was then called for, and the President put the question, "Does the association endorse the plan outlined in the copies of the resolution now before the association?"

Mr. Holzhauer was of opinion that the plan was not clearly understood. If only one delegate represented each association, the larger States would swamp the smaller. The vast majority of pharmacists might be overruled by the majority of delegates. Unless this was provided for he did not feel justified in voting for the resolution.

Mr. Nicot, in reply to the query, said that the committee had discussed the matter, and decided delegates should be elected, not stating the number.

Mr. De Forest said the probabilities were that there would be one delegate at large from each State, and one for every hundred members of the State association, which would make it truly representative. Each association would have to pay in proportion to its representation.

Mr. White said everything appeared in a chaotic state—a mere theory from which something definite might arise in the future. The associations were asked to send delegates and pay a pro rata tax. He could not see his way clearly, and was not in favor of sending delegates and paying their pro rata of expenses which might be incurred. It would be as well to wait and have matters more clearly determined.

Mr. Laird was heartily in favor of the plan. There were but few States destitute of associations, and if a National Retail Druggists' Association were to exist, the most feasible plan was to have it made up of delegates from the State associations. If the association were in favor of a national association it should send a delegate on, and whatever plans were adopted they would make the future of the association. The association would have to pay only its pro rata of the actual expenses incurred at that meeting. While opposed to having members outside the delegates, he should vote for the resolution. The association should consist of delegates only, but this was a matter to be settled at the meeting of the National association.

Dr. Eccles said that the plan presented was merely outlined, and no indorsement of it would be an indorsement of details. Under a misapprehension the second article was being discussed, which was not really under consideration. The resolution should be indorsed now, and merely laid over to await the outcome. The details should be left, as suggested, to the delegates, as it would result in a fair pro rata taxation.

Mr. White was aware he included the second item in his remarks, but the first and second were so intermingled that one could not be voted for without involving the other.

Dr. Eccles said no definite promise was made by an indorsement of the section.

Mr. Sayre said: The indorsement meant simply that a general plan was indorsed; delegates were sent to arrange its details, and their pro rata expenses paid. The N. R. D. A. was still in existence, and might exist long after the Providence meeting. He was inclined to the opinion that it was desirable to reorganize it. If the plan were indorsed delegates could be sent and instructed. If reorganization resulted, the association was committed to nothing except the payment of the expenses of its delegates at Providence. The N. R. D. A. was not destitute of power in the matter, and might prefer to remain as it was. It, being the largest association, had no reason to disband, but if the association came in it would probably be reorganized.

Mr. Drescher was in favor of aiding the movement. The association's responsibility was certainly very limited. The indorsement was a step from which much good might develop.

The outline was then indorsed, after which Mr. Howard moved the adoption of the second resolution relating to the payment of the pro rata tax.

Mr. Rust offered an amendment that the amount be limited, which being accepted, he seconded Mr. Howard's motion.

Mr. Ryerson said he had been informed that the pro rata tax would not exceed fifty cents for each member. He was more than willing to spend this amount.

Mr. Nicot said that according to his estimate a pro-rata tax of 25 cents would more than cover the running expenses.

Mr. White said there was no reason why the expenses of delegates to the N. R. D. A. should be paid any more than those of delegates to the A. P. A. He was opposed to it on principle.

Mr. Thorne said in the last case the delegate got a copy of the transactions and had a scientific interest in the proceedings. In the case of the N. R. D. A., the trade interest element was paramount and a good representation was not otherwise possible than by paying expenses.

Mr. De Forest said that the N. R. D. A. increased trade profits and men were not so willing to sacrifice themselves in working for mere pecuniary profit of others. Science was a different matter. Here any intelligent man was willing to make sacrifices.

Mr. Rust was in favor of a 25 cent tax.

Mr. Laird wanted to know for what all this money was wanted.

Mr. Ryerson had understood the money was intended to cover all the actual expenses of the delegates, car-fare, hotel expenses and running the association. The larger the association attendance, smaller the pro-rata. If the expenses of three delegates were paid they would go; otherwise, very likely, not.

Dr. Eccles said that a pro-rata scheme, taking in all the expenses, fare, etc., would be unjust if the same were lumped by the central association and divided according to members among the State association. What plan had been adopted?

Mr. Paddock thought the discussion was somewhat at random. The expenses of the delegates were not included in the pro-rata tax. In Mr. Nicot's 25 cent estimate such expenses had been included. The pro-rata tax was for the expenses of the association. The delegate, whether from California or New Jersey, was to have his expenses paid by his own association. This movement was merely preliminary. He was in favor of the suggested plan, as it made the N. R. D. A. symmetrical in lieu of cumbersome, as at present. All details could be arranged later. The only expense was that of the delegates.

Mr. White said that if this had all been said earlier in the discussion it would have prevented much debate.

Mr. Sayre said that at most 15 cents a head would cover the expense.

Mr. Rust said that was why he wanted to limit the expenses.

Mr. Holzhauer said that the milk was at last pumped out of the cocoanut and he understood and approved of the scheme.

Mr. McElhenie said the scheme seemed to be that the Secretary would draw on the various associations.

Mr. Howard accepted the amendment that the amount be limited to $25. The question being called for the President said it was: "Will your association pay the necessary pro-rata tax?" with an amendment limiting this to $25. Which after further discussion was adopted.

Morning Session—Second Day.

MAY 20, 1886.

The Association was called to order by President Townley. Mr. Laird, Chairman of the Committee for nominating officers, reported as follows:

President, F. B. Kilmer, New Brunswick; *First Vice-President*, G. S. Cook, Sommerville; *Second Vice-President*, H. O. Ryerson, Newton; *Treasurer*, William Rust, New Brunswick; *Recording Secretary*, R. H. Van Sant, Trenton; *Corresponding Secretary*, R. J. Shaw, Plainfield; *Standing Committee*, G. S. Cook, Somerville, Gustavus Pfaehler, Jersey City, Gerhart E. Mennen, Newark, G. W. Parisen, Perth Amboy, J. C. Howard, Camden. On motion the secretary cast the ballot, and the report of the Nominating Committee was adopted. The newly elected officers made appropriate remarks of acceptance, and on motion the Committee on Queries was made a constitutional one.

The recommendations in the president's address were taken up seriatum. The secretary: The president's recommendation that a committee on membership be formed, who shall prepare an appeal to all eligible to membership, and annually send such appeal with blank application; the committee fully indorsed this recommendation, which, on motion of Mr. Howard, was adopted.

The secretary said the next item was life membership. The same suggestion was brought before the Association years ago, but no action was taken. The committee suggested that final action be taken upon it at this meeting, as there were a few members who desired to become life members. A number of members spoke in opposition, declaring that the small fee proposed and none thereafter would ultimately work pecuniary embarrassment to the Association, after which the proposition was defeated.

The president appointed the following Committee on Exhibits: G. S. Cook, Wm. S. Disbrow, John L. Yatman.

The Secretary read from the report: "The President recommended that since a sum had to be appropriated to defray the expense of meeting in places where the membership was small, it should be remembered that the local committee had now power to draw on the treasury for $30."

"The Committee on President's Address had then recommended that pharmacists should be exempt from jury duty."

On motion of Mr. Brown the matter was referred to the Legislative Committee.

Messrs. R W. Vandervoort, C. B. Smith and H. P. Thorne were then appointed a committee on Time and Place of Next Meeting.

The report of the Committee on President's Address was then read as a whole and adopted as amended.

Mr. Holzhauer offered the following resolutions:

Whereas, The New Jersey Pharmaceutical Association has heard the sad news of the disaster by which our fellow member, Mr. C. G. Am Ende has recently suffered, the destruction of his property by fire; therefore be it

Resolved, That this Association hereby communicate to him our sincere sympathy in this misfortune, and that he has our earnest wishes that he may speedily recuperate from this severe accident.

Resolved, That this Association further desire to place on record our earnest conviction and belief that he is entirely innocent of error in the reported case of accidental substitution or in otherwise giving one chemical for another, by which two estimable citizens of his city are supposed to have lost their lives.

Resolved, That these resolutions be given publicity through the press, and copies of the same be transmitted to our esteemed fellow member, Mr. C. G. Am Ende.

Mr. Kilmer, while he deeply sympathized with Mr. Am Ende, doubted the desirability of the Association's putting itself on record in so strong a manner as would be indicated in the resolutions. While he felt for Mr. Am Ende, an honored member of the association, he would like a full expression of opinion on the subject.

Mr. Rust suggested that the resolution read: "We have reason to suppose him entirely innocent."

Mr. Holzhauer said the reason for putting it in those words was that Mr. Am Ende said he was prepared to prove his innocence, and the association should be prepared to give him the benefit of the doubt until proven guilty.

Dr. Eccles said the question was whether to be guided by justice or by expediency. Mr. Kilmer opposed the resolutions on the latter ground. Pharmacists of the United States were in the same position as the signers of the Declaration of Independence. When it was signed one of the signers said: "Now, gentlemen, we must hang together or we will hang separately." The pharmacists of the United States were in the same position, since the people show an evident tendency to sit down upon the druggist. When the accident occurred there was an evident determination to squelch the pharmacists; to punish them with the extreme penalty of the law for every accident which occurred. The people seemed to regard the pharmacists as bound to be infallible, and evinced a determination to punish them, guilty or not. Man is fallible, but he did not believe Mr. Am Ende substituted morphine for quinine, since the symptoms ably described by Prof. Bedford, were not those of morphine poisoning. One case, the case of the girl who was so long sick, did not display any morphine symptoms. It was a clear case of imagination, like the girl who sat by the girl the dog snapped at. The young lady, her friends, and her doctor suffered from imagination; the doctor made a wrong diagnosis. The atropine given caused the deaths which the morphine was blamed for. The girl's pupils did not display the morphine contraction; there was no stupor. The jury who decided the case were not expert toxicologists and hence were not Mr. Am Ende's peers. Mr. Am Ende should be supported as a matter of self-preservation.

Mr. Kilmer said his opposition had been intended to draw out an expression of opinion. He preferred to not decide upon the matter unless it were fully discussed. He deeply sympathized with Mr. Am Ende, and since the opening of the session had heard evidence which had changed his opinion. The matter should be discussed from a judicial standpoint. He was willing to do anything to save Mr. Am Ende, but was not willing to put himself on record without full examination.

Mr. Holzhauer said that Mr. Am Ende was merely given the benefit of the doubt.

Prof. Bedford then read Mr. Vandervoort's resolution and said that from a careful perusal of the evidence before the jury and other information he was absolutely certain that there was no morphine dispensed by Mr. Am Ende in that prescription.

Now, as concurrent evidence to those who may not have seen what was written, let me state that four powders were put up, all of them taken from one bottle. Two of those powders were prepared. They were taken from Mr. Am Ende's possession, and they went through the hands of two persons before they were administered. Observe one thing, that in what has been written and in what I have to say I confine my remarks to the one case that has been before the jury for a trial. Here I will have to correct a little remark made by Dr. Eccles. The symptoms in the two cases were not identical; they were different. This seems to be the mystery. Four powders were dispensed from one bottle; they were put in a box and went out of the store; one of those powders is conceded to have been given; five hours afterward there was not a single symptom of sleepiness. There has not been in that one case a single thing to indicate anything other than quinine. Now, if four powders went out of that store and one of them by its effects conclusively proves that it could not have been morphine, is it not fair to suppose that they were all the same thing? In the case before the jury all symptoms sworn to by the physician fully correspond to the symptoms of atropine. One physician asked "How much atropine did you inject?" said, "About the sixtieth of a grain." He didn't know; he guessed the sixtieth of a grain.

After remarks favoring the resolutions by Messrs Drescher, Gardner and Kilmer, they were unanimously adopted.

The committee to select place for next meeting recommended that the next meeting be held at Paterson on the third Wednesday of May next, and the duration to be left to the discretion of the local committee.

Mr. Kilmer, chairman of the Standing Committee, re-

spectfully recommended the following names to be presented to the Governor, from which to select the State Board of Pharmacy:

George S. Cook, Somerville; R. H. Vansant, Trenton; Geo. F. Deacon, Bordentown; A. A. Brown, Camden; August Drescher, Newark; Wm. R. Laird, Jersey City; E. S. Reed, Atlantic City; Chas. Holzhauer, Newark; Randall Rickey, Trenton; R. W. Vandervoort, Newark; H. O. Reerson, Newton; H. P. Reynolds, Plainfield; Richard Frohwein, Elizabethport; E. A. Sayre, Newark; F. B. Kilmer, New Brunswick.

On motion the report was adopted. On motion the resignation of Mr. Theodore H. Sommers was accepted.

Mr. Paddock urged the association to send delegates to the meeting of the New York State Association at Rochester on the 8th, 9th and 10th of June, and also to the Kings County Association the second Tuesday of every month, excepting July and August.

The President stated that it was the custom of this association to send a delegation to the New York State Association A delegation would be appointed this year. He thanked the delegation from the New York State Association. and from the Kings County Association for their cordial invitation.

A paper in answer to query No. 3, "AQUA U. S PH. 1880," was then read by A. Drescher:

The requirement in U. S. P., 1880, of tests for purity of water used was a step in the right direction. The tests proposed were, however, insufficient. He recommended certain additions to as well as modifications of the Pharmacopœial tests. 1. The color should be compared with that of pure distilled water. 2. The residue after evaporation at 100° C. (fixed impurities should not be more than 1 in 10,000 U. S. P.) on being evaporated should be nearly white or faintly brownish; if black much organic matter was present; if the "burnt-hair" odor was perceptible nitrogenized organic matter was present. 3. Liquor calcis added should not cause turbidity or a precipitate. Waters exist which do not pass the Pharmacopœial limit of fixed impurities, but contain too much free CO_2 for pharmaceutical use. 4. The ammonia should be tested by Kubel's method. 5. Other oxidizable matter: The potass. permangauate test of the Pharmacopœia was indefinite. It was necessary that the permangauate solution should be of a fixed oxidizing power, and the quantity used be measured. 6. Lead, copper and iron in excessive amounts were to be found by treating 100 C.C. of the water with 2 or 3 drops of ammonium sulphide. Water for Pharmacopœial use should be absolutely free from lead, copper or iron. 7. Nitrates should be tested for by Fresenius' tests. Tests for chlorine in waters containing less than 1 in 10,000 parts fixed impurities are unnecessary. Water should be as nearly as possible H_2O. Rain water does not come up to the standard. For hypodermic solutions twice distilled water should be used, and the vial and cork sterilized by boiling before the introduction of the solution.

Dr. Eccles thought the chemists often failed to prove tests, and serious errors were to be found even in standard works like Watt's Chemistry. Even Roscoe in his new work on chemistry was guilty of copying these errors. It was necessary to verify tests The Pharmacopœial tests were not verified. He had recently tried in vain to work out the test for strychnine. Neither the strength nor temperature of the acid required was stated in the Pharmacopœia with the proper emphasis. The lead oxide test for phosphoric acid failed completely; the same was true of spirits of nitre. This matter ought to be carefully arranged in the next Pharmacopœial convention.

Mr. Drescher sa d he was more careful about directing the use of distilled water No natural water should be directed to be used in the Pharmacopœia. The potass permanganate test was loosely given in the Pharmacopœia.

Dr. Eccles thought too much emphasis had not been laid on distilled water. The Hygiea Company had sold to druggists carboys of croton water. He had called their attention to this and they sent distilled water, but they needed watching. The directions given in the Pharmacopœial tests were not detailed enough. The very best pepsin used under the Pharmacopœial directions would not give in a year the results it should give in six hours.

Prof. Bedford said condensed steam was often sold as distilled water.

Mr. Mc Elhenie found that the water in his boiler would not stand the silver nitrate tests. The Board of Health water did.

Mr. Drescher also read a paper on: "THE CLASSICAL ARRANGEMENT OF POISONS with a View of Having Mistakes Avoided."

He had had in use, for some time, a system, which had given satisfaction to him. It consists of two "poison closets," the first containing the "powerful poisons," viz:

Hydrocyanic acid and Potassium cyanide,	Alkaloids and their salts,
Arsenious acid and preparations,	Opium and preparations,
Paris Green,	Iodine and some preparations,
Mineral acids,	Powerful tinctures,
Carbolic, Cresylic acids,	Extracts, Fluid Extracts,
Oxalic acid,	Powders and Pills containing poisons.
Chromic acid,	
Salts of silver, Copper, Lead, Mercury, and Zinc,	
Tartar Emeti .	

The second "poison closet" is subdivided into three sections; it contains "minor poisons" and some substances, which, though not "poisonous," are "dangerous":

Chloroform,	Chloral-Hydrate,
Iodoform,	Butyl-Chloral,
Ether and compound Ethers,	Cantharides and Powder,
Collodion,	Narcotic Herbs and Powders,
Wood-Naphtha,	Roots, Seeds, etc.,
Cantharidal Collodion.	Cowhage,
	Euphorbium.

And other similar matters.

Dr. Eccles related an instance in which his excessive desire to avoid an error, led to that very error and this mental tendency to leap from one thing to the one not desired was very common and was most likely to occur to a very cautious man. Mr. Drescher's idea of a poison closet was a good one. Professor Bedford's idea about roughened bottles was also a good hint.

Mr. Paddock suggested that habit would wear away the effect of the roughened bottle. Dr. Eccles said that was true to a certain extent, but the effect would not totally wear away. The best thing in a closet was chaos; too much system was likely to lead to blunders through blind dependence upon it. Consumption of time is of course to be urged against this, but consumption of time led to more care. It, in his opinion, would tend to check a tendency to work for low prices.

Mr. Laird was of opinion, like Dr. Eccles, that chaos was the best system. A lawyer, by observing a similar system, never makes a mistake. The great danger was preoccupation with something other than the prescription.

Mr. Drescher had been led to have a poison closet through an error committed by a usually careful drug clerk. He was almost on the point of using oxalic for acetic acid.

Mr. Townley said preoccupation was the chief danger and poison closets alone would not prevent that; by intense devotion to the prescription alone would errors be avoided.

Mr. Gardner said preoccupation was an evidence of too little relaxation and too much attention to business.

Mr. Drescher said that whenever a prescription was put up in his store the bottles taken down were left out and a witness was called to look at the bottles and weights.

He also read an answer to query No. 2, How the mould in Syrupus Rhei, U. S. Ph., can be prevented.

This syrup is, according to the writer's experience, best preserved by the addition of Borax. This is added in the same quantity as the Potassium carbonate. Borax is generally conceded to be innocuous, and it is, chemically, compatible with the other ingredients of the Syrupus Rhei.

Mr. Brown offered the following resolution: "Resolved that, this association recommends that so far as practicable the selection of young men for apprentices be confined to graduates of schools." Mr. Kilmer thought many smart boys never graduated. The resolution was on motion adopted.

The Committee on Treasurer's Report reported it had been audited and found correct.

The Committee on Exhibits rendered a report, which was read and referred to the Publication Committee, after which a committee to act in conjunction with the Patterson local committee was appointed and $100 appropriated for expenses. The following committees were appointed:

Committee on Publication: A. P. Brown, Camden; H. P. Reynolds, Plainfield; Wm. Rust, New Brunswick; R. W. Vandervoort, Newark; R. H. Van Sant, Trenton.

Committee on Queries: A Drescher, Newark; D. W. Brant, Newark; E. N. Benham, Montclair.

Committee on Membership: Chas. Holzhauer, Newark; R. E. Parsons, Orange; H. M. Smith, Newark.

Committee to confer with N. W. D. A.: A. Drescher, Newark; C. Holzhaner, Newark; E. A. Sayre, Asbury Park.

Local Committee to assist Local Secretary: C. B. Smith, Newark; G. Mennen, Newark; R. E. Parsons, Orange

Local Secretary: Jas. H. Mackintosh, Paterson.

Delegates to American Pharmaceutical Association: F. B. Kilmer, New Brunswick; G. S. Cook, Jersey City; A. P. Brown, Camden; R. W. Vandervoort, Newark; J. G. Howard, Camden.

Delegates to N. R D. A.: R. H Van Sant, Trenton; R. W. Vandervoort, Newark; J. G. Howard, Camden.

Delegates to New York Pharmaceutical Association: W. R. Laird, Jersey City; E. A. Sayre, Asbury Park; Chas. Holzhauer, Newark.

Delegates to Pennsylvania State Pharmaceutical Association: H. P. Thorne, Medford; A. P. Brown, Camden.

Delegates to Massachusetts Pharmaceutical Association: E. A. Sayre, Asbury Park; E. N. Benham, Montclair.

The association then adjourned to meet at Patterson the 3d Wednesday in May, 1887.

THE WESTERN DRUGGIST.

VOL. VIII. No. 8. AUGUST 16, 1886. Subscription Price, $1.00 per annum. G. P. ENGELHARD & CO., Chicago.

DR. CHEVREUL.*

On any pleasant Sunday there may be seen on the second story of a house half hidden in verdure in the Rue Cuvier, Paris, France, a venerable, pleasant-faced man, very much interested in all the animal and plant life which can be seen in the vicinity. This is Dr. Chevreul. He is clad in a long black coat, which contrasts with his hair, which is long, white, shaggy, and very rebellious to the comb, falls in great locks on shoulders which years have not bent. He carries himself as erect as if more than ninety-nine years had not passed over his head. Within two steps of him is the Museum where many of his brilliant discoveries have been made, and in the present place he is only to be found on Sundays. The rest of the week he comes, goes, runs, works, studies in his laboratory, presides over the National Agricultural Society, directs the labors of the Consulting Committee on Arts and Manufactures, comments on Newton and Leibnitz, discusses the work of his colleagues, amicably quarrels with M. Faye about his "pirouettes," an ingenious arrangement serving to demonstrate complementary colors; in short expends his life for the benefit of science, which he loves passionately, and of humanity.

DR. CHEVREUL.

This savant seems possessed of an intelligence resembling that of Newton, an enthusiasm equal to that of Moliere and with a philosophy equal to that which has inspired the poet with the "poverty" scene in "Don Juan." Dr. Chevreul's aim and end in life seems to be to do good for his fellow beings.

When recently complimented in the Academy on his longevity he declared that this was due to the simplicity of his tastes. Any one of his discoveries might have brought him millions, yet he is content to work and publish his results. The duties of his professorial chair, his study, some lectures in the libraries, his conversations with his colleagues, fill up his tranquil life, into which enters neither luxury, show nor cupidity, but which is tinged with an ardent love of work.

He rarely quits his laboratory in the Gobelin Manufactory where he has been professor of chemistry and director of dyeing since 1824. His apartment, in the house already mentioned, is like himself a piece of antiquity; furnished in the

* From L' Illustration.

austere style of the First Republic. He has been called the Nestor of French students and his apartments might be called the Nestor of French students' apartments, so to speak, since the furniture dates from the period when, in 1803, fresh from the Central School of Angers, he studied chemistry in the Paris Vaquellin Manufactory of Chemical Products. His tastes in all respects are simple. If he knows the taste of wine, it is only through his studies; he drinks nothing but water. The water supply having become impure at one time, he, on the urgent demand of his physician, consented to mix with it, not wine, but beer. When the water supply again became pure, he returned to his old habits. He lives on a little meat, eggs and beans, but never eats fish.

Any of his discoveries might have made him rich had he not preferred, like Prof. Henry, who invented the telegraph, science and the desire of being useful to being rich. He had "no time to make money." One of his discoveries has made millions for those who have introduced it into general use; that which concerns the decomposition of fatty bodies into fatty acids and glycerin. It was a true gold mine. From it sprang the stearin candle. Those who remember the days of the "tallow dip" have an idea of the economic value of Dr. Chevreul's discovery. Dyeing has greatly profited by his labors on colors. He is attracted by any unusual fact which seems to require explanation.

A Jesuit savant, P. Scheffert, noticed that when any colored object was fixedly looked at, its edges assumed a different color; a red object had green edges; this Scheffert called the "reversed color," and these observations led Dr. Chevreul to discover the relations between colors and their complementaries, and the dependence of the observation of such relations on sense defects. This discovery was of great value in art.

Delacroix, a leading French Oriental painter, was desirous of reproducing the brilliant yellow tints of Rubens, but was unable to discover Rubens' secret. Chevreul showed that, without knowing the law, Rubens had hit upon the fact that the juxtaposition of complementary tints increased their vividness. It was in 1829 this discovery was made, and the brilliant color effects to which Delacroix owed his reputation and fortune were due to this discovery of Chevreul. The old masters had taken into account these phenomena of contrasts, but Chevreul was the first to discover the law governing them. He has a curious album, which well illustrates this law; it is composed of leaves of different colors on each of which is painted a gray palm leaf. This gray palm leaf appears rose-colored, greenish, orange, etc., according to the color of the leaf on which it is painted, demonstrating an observation made by Liebnitz and a favorite text with Dr. Chevreul,—"The senses reveal only unrealities." The contributions which Dr. Chevreul has made to economic chemistry, especially in the department of fine arts, are numberless. Very frequently has he announced discoveries based on experiments conducted for more than half a century.

The grave members of the Academy of Sciences were convulsed by his placid statement, in 1882, that the experiments he had described were not of very recent origin; he had reported them in outline at a meeting of the Academy in 1812. His memory is painfully accurate, the pain being experienced by younger men who have tried to catch him tripping in debate. His philosophy is neither optimistic nor pessimistic in character. He believes that nature contains more than has yet been conceived by the most philosophic minds. In religion he is a Voltairean, with a slight leaning to agnosticism. Modest, philanthropic in spirit, free from cupidity, endowed with a bias against shallow generalizing, he is one of the best representatives of the true man of science. Despite a recent accident which lamed him temporarily, he seems likely to celebrate in good health and spirits the centennial anniversary of his birth on August 31, 1886.

TRAINING YOUNG MEN FOR THE DRUG BUSINESS.*

BY C. B. FLINT, LYNCHBURG, VA.

One of the main objects in the organization of our association is the elevation of the standard of our profession. The desirability of accomplishing this object goes without saying; but how to accomplish it is the problem for all of us. I propose to designate one method, and to offer some general hints on the subject which I hope may prove useful. The subject I propose is the "Training of young men for the drug business."

In the absence of an examining board of pharmacy to establish some sort of standard of proficiency, and in the "go-as-you-please" style which has prevailed in Virginia up to this time, some men have come into our ranks who are either grossly incompetent, or, if competent, indifferent to the honor and dignity of their avocation. Caring for nothing but the shekels, they are content to let their apprentices drift unheeded whithersoever they may without an effort to direct their inquiries, to stimulate their ambition, or to train their minds to systematic study and investigation.

Starting with a boy of average intelligence, he said, a fair knowledge of English, the rudiments of Latin, the principles of arithmetic and a desire to learn, and no one of our number, who will spend half an hour twice or three times a week in examining and instructing him, need fear that he will have a clerk in two or three years who will do his instruction any discredit before the board.

Mr. Flint then gave a brief outline of a course of study such as might be pursued advantageously in the store. "After the primary subjects have been mastered the apprentice is led on to the study of the different processes in connection with daily practice in the store. Then gradually leading to the study of the ultimate composition of drugs, active principles, alkaloids—the differences between gums, gum-resins, resins, oleo-resins, balsams, essential and fixed oils—the knowledge of qualitative tests—the manufacture of such chemicals as are prepared in the establishment—the practice of elegant pharmacy so-called—all these should follow in due time. Who of us is ready to say, his study time is over? Nay, do we not find that the more we study, the more we find to learn?"

In conclusion he reminded his fellow-pharmacists that in all training and teaching they should seek to impress upon their pupils' minds the fearful responsibility devolved on them in the fact that

*Abstract of a paper read before the Virginia Phar. Assoc.

human lives are in their hands, and the necessity for the utmost caution in all their work.

ESTIMATION OF ALKALOIDS.

In the estimation of alkaloids by Mayers' solution, Mr. Frank Hereth in a paper read before the Indiana Pharmaceutical Association, makes some valuable practical suggestions. The method generally employed is unsatisfactory in several ways. First, because the reagent cannot always be added in all operations with the same degree of speed, and second, because it is always desirable, if possible, to avoid the use of filters for obtaining a clear portion to determine the end of the reaction. A method devised by Mr. J. K. Lilly some years since has been used with confidence, the results of which as to the end-reaction admit of no doubt whatever. It is as follows:

The proper amount of acidulated water having been added to 50 cc. of the fluid extract to be assayed, the alcohol is carefully driven off at a very low heat, thrown upon a filter, the dish and filter well washed with weakly acidulated water until the filtrate measures 100 cc., and contains about 1 per cent. of sulphuric acid. Then by means of a pipette 10 cc. of the acid solution (representing 5 cc. of the fluid extract) are measured into each of six or eight test-glasses, and the remainder set aside for verification if necessary. The amount of drug used, and the amount of percolate obtained, being known, a little experience will indicate about how much Mayer's solution will probably be needed. If eight test-glasses are used, we will suppose that 3.0 cc. of Mayer's solution will be required. This amount is accordingly quickly run into one of the test-glasses from a burette. Then, running down, 2.9 cc., 2.8 cc. and 2.7cc. are placed in three others, and 3.1 cc., 3.2 cc, 3.3 and 3.4 cc. are placed in one of each of the remaining four. The glasses are then covered and allowed to stand at least eight hours. The clear supernatant liquid is then decanted into test-tubes, on foot, or filtered if necessary, and then about 0.1 cc. Mayer's solution dropped into each one, and in one or two minutes the exact point of cessation of cloudiness will be observed. This method requires very little time and attention, and does not require close watching to try and determine the exact point where precipitation ceases.

SACCHARIN.*

BY L. WOLFF, M. D. PHILADELPHIA.

Under this name a product of the coal-tar derivatives has been recently introduced for medical use. It was first produced by Dr. C. Fahlberg in 1879, who described it, together with Prof. Ira Remsen, in vol. 1, page 426, of the American Chemical Journal.

To understand the chemistry of saccharin it is necessary to enter somewhat into the consideration of the aromatic group of hydrocarbons from which it is derived.

This series is known by the general formula of C_nH_{2n-6}; i.e., every member of the group contains for the carbon atoms twice as many of hydrogen, less six. The starting-point of this is benzene, C_6H_6, derived by distillation from coal-tar, and the second member toluene, C_7H_8, or methyl benzene, also written as $C_6H_5.CH_3$, another distillate from that source.

Toluene treated with sulphuric acid, H_2SO_4, so that the H adjoining the CH_3, in the hydrocarbon chain will be substituted by SO_3H, yields orthotoluenesulphonic acid, expressed by the formula $C_6H_4.CH_3.SO_3H$.

This converted into orthotoluenesulphochloride, $C_6H_4CH_3SO_2Cl$, and treated with ammonia, NH_3 gives orthotoluenesulphamide, $C_6H_4.CH_3.SO_2.NH_2$.

As toluene by oxidation is changed into benzoic acid, so is the toluenesulphamide changed when oxidized with potassic permanganate, $KMnO_4$, into benzoic sulphimide, or saccharin, and orthosulphobenzoate of potassium. This mixture, when treated with hydrochloric acid, HCl, leaves a precipitate of benzoic sulphimide, $C_6H_4.CO.SO_2.NH$.

This benzoic sulphimide, if treated with water, gives orthosulphaminbenzoic acid, $C_6H_4.CO_2H.SO_2NH_2$, so that saccharin may be therefore properly termed an anhydroorthosulphaminbenzoic acid.

Saccharin, prepared in this manner, is a white powder, composed of irregular crystals. It is very slightly soluble in water, not quite half per cent. dissolving at ordinary temperatures, while it dissolves readily in warm and boiling water, from which it crystalizes out on cooling. As forming sulphaminbenzoic acid when so dissolved, it has an acid reaction. It is readily soluble in alcohol and ether. Its salts, with the hydrates or carbonates of the alkaline metals, are readily soluble, but saccharin is separated out from such solutions on the addition of acids. Heated to 220° C. it melts, and is partially decomposed, and, when fused with potassic hydrate, it forms salicylic acid. Its most remarkable property, and that which makes it of advantage to medicine, consists in its intense sweet taste, which is so great that one grain if dissolved and neutralized in about ten pints of water (1 to 70,000), can still be tasted, while one grain of cane-sugar can only be detected at the utmost when dissolved in half an ounce of water, so that saccharin is about three hundred times sweeter than sugar, the taste of which it represents entirely in quality.

Professor Mosso has recently studied the physiological effect of saccharin, and published the results in the Archivo per le Scienze Mediche, vol. ix., 1886. According to his researches, it is not, like benzoic or salicylic acids, excreted in the urine as hippuric or salicyluric acid, but is found therein in the same chemical condition as ingested. Frogs can be kept indefinitely alive in a neutralized watery solution of saccharin. When injected under the skin, the urine tastes sweet within fifteen minutes, and continues so for several days. Experiments with dogs, when saccharin is given in large doses, developed no impairment of nutrition, nor was during its use the amount of urea eliminated either increased or diminished. The urine of animals fed with saccharin is less prone to putrefaction. The amount of chlorides in the urine is increased during its use, while the phosphates and sulphates remain normal.

Animals on full diet, along with saccharin, increase in weight. On man, doses of 5 grammes

*Read at the Clinical Meeting of the Philadelphia County Medical Society, May 19, 1886.

(75 grs.) produce no abnormal effect, and the appetite is stated to be increased during its use. The uropoetic ways are the only eliminative tract for saccharin, which makes itself manifest in the urine half an hour after its ingestion. It may be summed up, therefore, that saccharin is not possessed of any toxic or deleterious effect on the human organism.

In therapeutics this new substance is destined principally as a corrective for the taste of other substances, and as a condiment for the use of persons suffering from diabetes mellitus, and those under treatment for the reduction of obesity.

In several experiments that I have made, I found it to correct the bitter taste of quinine materially if one part of it is added to two parts of the latter. As its solution forms an acid, which readily forms salts with bases, it can be utilized to combine directly with alkaloidal quinine to form a quinine sulphaminbenzoate.

In fermentative disturbances of the digestive tract, when sugar and carbohydrates are contraindicated, it may be used as a corrective for the nauseous taste of other remedies, especially so as it has decided antisepic powers. It may also be used as a condiment for milk and other nutriments to be taken. To improve the taste of elixirs, wines, etc., it seems especially fitted, as they will under such conditions have the very desirable property of not deranging the stomach. The coffee and tea of diabetic patients may be sweetened with a grain or two of saccharin, and it may also be added with advantage to jellies and other foods for such patients.

That saccharin has a place in medicine and in the dietary list is undoubted, and that it is innocent in its effect commends it especially to a trial by physicians.—Therapeutic Gazette, p. 444, '86.

THE NEW DRUG, STROPHANTHUS.

The careful researches of Dr. Thomas R. Fraser, of the University of Edinburgh, on the medicinal properties of this drug encourage the hope that it is the most valuable heart-tonic yet introduced into medical practice.

The plant from which the drug is derived is a woody climber belonging to the natural order, Apocynaceæ, and is widely distributed over the regions of tropical Africa. The botanical name of the plant is *Strophanthus hispidus*. It climbs gracefully to the tops of the highest trees, bears yellow flowers and follicular fruits; the latter are about a foot in length, about ¾ of an inch in diameter at the base and taper gradually to the apex. The follicle is longitudinally striate and fibrous exteriorly, yellowish or grayish-brown in color and woody in texture, and contains on its interior from 150 to 200 seeds. The latter are about ⅝ of an inch long, flattened on one side with a central ridge, running lengthwise on the other, about 3-16 of an inch wide and 1-12 in. thick, covered with a dense silky pubescence which is greenish yellow in color, and the apex is prolonged into a graceful, stalked coma, the stalk of which is ½ or 2 inches in length and the silky white hairs of which are fully as long; odor of the crushed seeds peculiar, and taste very bitter. The seeds are the portion used in medicine. Their active constituent is the colorless crystalline glucoside, *Strophanthin*, which they contain in the proportion of from 8 to 10 per cent.

In its physiological effects it is closely allied to digitalis and appears to exert its influence directly on the cardiac muscle, but it acts more powerfully and more promptly than digitalis, and has less action on the walls of the bloodvessels. It also produces diuretic effects the same as digitalis. If further experience with the drug justify the conclusions reached by Dr. Fraser, there can be little doubt that it will soon replace other heart-tonics in medical practice, for one important advantage in its favor is the fact that the active principle is contained in large quantity in the seeds, and can be obtained with little difficulty in a pure form.

The dose of strophanthin is said to be from the 1-120th to the 1-60th of a gram.

The African natives crush the seeds and make them into a paste with water for the purpose of poisioning their arrows.

PATENT MEDICINES IN AMERICA.

Recently published statistics state there are 5,000 proprietary articles of home manufacture on the American market; 500 of these are of commercial importance, and 50 are run as an independent business. The patent medicine trade of the United States is $22,000,000 annually; of this $10,000,000 is annually expended in advertisements and the net profit amounts to $5,000,000.

The traffic is the work of the past half century, most of the patent medicines having sprung up since 1830. Not one in a thousand patent medicine men has succeeded. There are five firms which have made $1,000,000 each; twenty others will aggregate $5,000,000 and the net savings of all the rest will not reach another $5,000,000. More patent medicines proportionately are sold in the United States than elsewhere. The great middle class buys most of them. The profits from and expenditures on established patent medicines run about as follows:

Expenses.	Per cent
Cost of material, labor and expense	24
Advertising	12¼
Jobbers' expenses	03½
Retailers' expenses	21
Total expenses	61
Profits.	
Manufacturers' profit	12¼
Jobbers' profit	05½
Retailers' profit	21
Total profits	39

The smaller country newspapers subsist largely upon advertisements of these "remedies," and at least $100,000,000 have been paid newspapers during the last two decades, while upward of $5,000,000 have been expended in rock and fence advertisements.

The field for new patent medicines is narrowed every day. Cathartic pills and sarsaparillas do not succeed readily because so many established

specimens occupy the field. Until the stamp tax was abolished patent medicines yielded the government $1,800,000 annually. The census of 1880 shows that there were then 563 establishments in this line in the United States employing 4,015 operatives; that the capital invested was $10,620,000 and that the value of the annual outfit was $14,682,000. New York stood first in the amount of capital invested ($3,512,430), and in annual output (nearly $4,500,000); Pennsylvania, second in capital, invested $2,000,000 and third in annual output $1,000,000; Missouri third in capital, $1,500,000. and fourth in annual output, $750,000; Ohio fourth in capital $570,000 and fifth in annual output $450,000; Massachusetts fifth in capital $521,000 and second in annual output $1,500,000.

ROTHER ON SYRUPS.

BY C. S. HALLBERG.

The formulas for the syrups in the U. S. P. 1880 seem to have received more than their share of attention. While there is little doubt that some of the formulas or processes might have been improved, yet there has been much groundless criticism of these as well as of other classes of the galenic preparations. The formula for Syrup of Tolu, for example, has been quite frequently condemned as impracticable, simply because the process is essentially different from that formerly official, and probably also because the syrup is charged to saturation with the flavor of the tolu without any artificial means. This process, more than any other, has been held up to ridicule and formulas by intervention have been offered by the score as substitutes for the official one. The fact seems to have been lost sight of that the aromatic principles are only sparingly soluble in water, but to a greater extent in saturated aqueous solutions of sugar—syrups. This solution is aided by heat and in the process for syrups of tolu, we therefore have a typical process for the preparation of the aromatic syrups.

The soluble constituents of the drug, however, enter in solution in the hot syrup to saturation and may separate upon cooling. This is the case with syrup of tolu, and is no doubt the cause of the principal objection urged against the process. But the cold syrup, when strained from the excess of matter in solution whilst hot, is still a saturated solution of the aromatic principles, and contains a greater proportion of these than could be obtained in cold water alone.

It will be observed that while by the present process a saturated syrup of tolu is obtained, by that formerly officinal only the aromatic constituents of the tolu soluble in *one-half* the same volume of cold water (obtained by filtering the aqueous mixture of tincture of tolu, sugar and magnesium carbonate) is available for the syrup of tolu.

Mr. Rother, one of the most prolific writers on officinal pharmacy, in discussing the officinal syrups, admits (Drug.Circular p. 171 '86) as an "evident fact that aromatic impregnation is possible to the fullest capacity of the aroma when plain mergence, irrespective of solution, is resorted to." The term *mergence*, though not a "pharmacinal" expression, we suppose, is meant to designate the process for the preparation of Syrup of Tolu, and which therefore should have his indorsement, yet we find that Mr. Rother has been the author of both interventive and chemical processes for the preparation of this syrup. While this process is applicable to a few syrups, it is not adapted to those prepared from drugs, whose aromatic principles are exceedingly delicate or volatilized by the heat required to effect their solution in the syrup.

Syrup of Orange is another example of "pharmacinal" restlessness. Prior to the recognition of the U. S. P., 1880, the old formula (1870) for the preparation of this syrup was generally condemned and the tincture from the fresh rind quite extensively employed. It was found that the rind was better extracted when deprived of the inner white layer, that its bulk was greatly reduced, and more than all, when carefully performed, very little, if any, tannin would be present in the tincture, and the syrup therefore not liable to become discolored by iron preparation. But Mr. Rother, in spite of these facts, insists that the removal of the inner white layer is "an uncalled-for operation" and recommends a formula for the preparation of the syrup, essentially the formula of the U. S. P. '70; dried peel, reinforced with oil of orange! The formula at present officinal leaves nothing to be desired, except that the proportion of orange peel should be slightly increased.

Aromatic Syrup of Rhubarb is also improved by Mr. Rother by substituting ginger, in the form of tincture, for nutmeg, and the oil of cloves and cinnamon instead of the drugs. While we disclaim any intention to stickle for moss-back notions, it is generally supposed that the "spices," cloves and cinnamon, are used in this syrup, not alone for their aromatic principles, but also for the tannin they contain. As to the substitution of ginger for nutmeg, there can be no objection, except that the preparation would not be aromatic syrup rhubarb when so prepared, and that the physician and the public should possibly be consulted before a change of this character is advocated.

Syrup of Licorice, Mr. Rother thinks, should have been made officinal, which proposition we must indorse. In order, however, to facilitate its extemporaneous preparation, purified licorice was introduced in the Pharmacopœia. This is a very convenient form of licorice, and superior to the stick, or mass, on account of its greater purity. In view of the ease with which it may be prepared, by simple extraction and concentration by evaporation by the ordinary pharmacal utensils, it is preferable to any other form. Mr. Rother, however, seems to have no official acquaintance with this form of licorice, but recommends the use of the commercial mass, notoriously the cheapest and poorest of all forms of licorice. It is made by the ton usually over a naked fire for the confectionery and tobacco trades, and contains a great proportion of insoluble starch, and sometimes also glucose, as an adulterant. With the exception of one brand, manufactured expressly for a large tobacco house, licorice mass is unfit for pharmacal purposes, containing very little glycyrrhizin. That Mr. Rother should recommend this form of licorice instead of

the officinal purified extract, would seem to indicate that he does not know what he is talking about. This conviction is fully substantiated when he says that "the Pharmacopœia should have incorporated an abstract of licorice by all means." From a good quality of Spanish licorice the yield of extract is 50 per cent. and sometimes exceeds it; how can an abstract be prepared then, from licorice root? It is evident that Mr. Rother has had very little, if any, experience in the extraction of licorice, and attempts to make up his deficiency in that respect by the recommendation of his usual ammonio-boric processes.

HOME STUDY FOR CLERKS.

The education of clerks or apprentices appears to have been a leading topic among the many subjects discussed at nearly all of the recent meetings of pharmaceutical associations, owing probably to a variety of causes. Proprietors do not have the opportunities to extend the aid so essential to the beginner in pharmacy and he is frequently left entirely to his own resources. These, as might be expected, are exceedingly meager, even with those possessing a fair school education, not especially with reference to books, because the average pharmacy is well enough supplied with these, but in the lack of *system* in commencing the study; with the immense amount of facts as presented in our dispensatories and other similar works, the beginner is at a loss how to commence, and not infrequently attempts at the outset to accomplish too much. Discovering, however, that he is making very little progress, he soon becomes disheartened and, not infrequently, gives up the task as hopeless, satisfying his own conscience with the promise that "he will wait until he attends a college."

This condition is far from desirable, for even if attendance at college be finally attained, the practical experience which might have been gained previously in the store, if supplemented at the time with proper study, would have served as a strong foundation upon which to build his pharmaceutical education.

But with the vast number to whom attendance at a college is scarcely to be expected the situation is much more serious; without any system, perhaps without any friendly encouragement or aid, without assistance to explain difficult problems, the outlook is decidedly discouraging. Resolutions to master a certain number of subjects in a specified period, without which decided progress cannot be made, are usually not adhered to, simply because of the absence of some obligatory power to maintain the interest and enforce the accomplishment of work.

In order to extend these advantages more generally to clerks, apprentices and others, who desire to progress in the study of pharmacy, the National Institute of Pharmacy has devised a course of instruction similar in outline to a college course, embracing Pharmacy, Botany, Materia Medica and Chemistry. This instruction is based upon a series of lectures wherein the different subjects are treated in a simple yet comprehensive manner. The study of each lecture is supplemented with an examination covering the principal points, the questions to be answered in writing and forwarded to the Director of the Institute before the study of another lecture is commenced. By this plan a certain amount of work is laid out to be accomplished in a specified time; the lectures being mailed at regular intervals serve to stimulate the student to answer the questions before a succeeding lecture is sent. These answers upon being received, are carefully corrected and such observations transmitted to the student as the character of the replies may suggest, or as his deficiency may disclose. These corrections being compared with a copy of the original answers, serve to impress the facts upon the memory in a manner not easily to be forgotten, while incidentally the plan gives the student desirable practice in expressing his thoughts in brief and concise language.

At the end of each term a resume is made, and the student subjected to an examination covering the whole branch included in the term.

This system of instruction, therefore, it will be observed, is based upon the principles which make home study a comparatively easy task. First, by providing a systematic course, second, by exercising a healthy stimulus in order that the work be not neglected, and third, by extending aid and encouragement, making study a pleasure and imbuing the student with enthusiasm. In short, it gives the student nearly every advantage of a college course at a nominal cost.

With a view, however, of placing the Institute system within the reach of a still greater number than its actual subscribers, a plan has recently been put in operation whereby apprentices and clerks in cities and larger towns may form clubs or associations, and, with the lectures as a basis, have "quizzes" at stated meetings, thus combining all the advantages of association with pleasant and profitable instruction.

The Syracuse (N. Y.) Drug Clerks' Association at the suggestion of Mr. Dawson, Secretary of the N. Y. State Board of Pharmacy, to the number of seventeen members, have procured the lectures, appointed a "quiz-master," and look forward to many a pleasant and instructive meeting during the long winter evenings. The lectures after being forwarded to the quiz-master are delivered by him to the members, one lecture at a time; at the succeeding meeting the next lecture, which contains the questions upon the subjects treated in the preceding one, are distributed, and the quiz begins. The quiz, though based upon the questions accompanying the lecture, may not necessarily be confined to these, but may extend as the time permits, or as the experience of the members may indicate. At the next meeting, held about a fortnight after, the same plan is pursued, and so on until the course has been completed.

The results of this plan are being observed with much interest, in the belief that its general adoption will solve the problem of education of the clerks, and be a basis for the formation and maintenance of much friendly intercourse. With the advent of cool weather it is suggested that clerks who are favorably situated and interested in elevating themselves and their colleagues form clubs or associations and communicate with the Director of the National Institute of Pharmacy, 69 Dearborn street, Chicago, with reference to this plan.

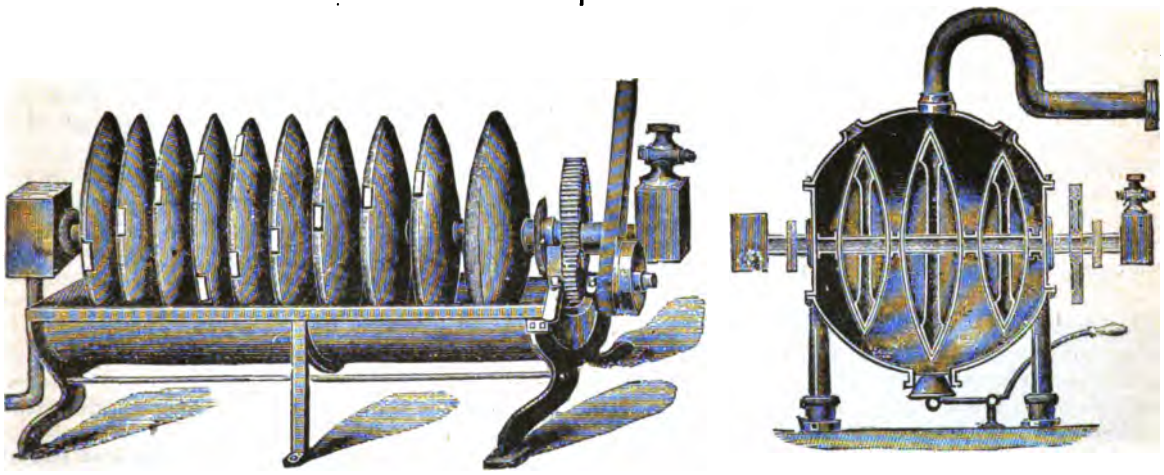
CHENAILLIER'S UNIVERSAL EVAPORATOR.

In the manufacture of extracts of coloring matters, glucose, various syrups, musts of wine, concentrated lyes and acids, and numerous other substances, the ordinary processes of evaporation are both slow and expensive, and the want of more expeditious methods has often been felt.

A machine for this purpose recently introduced from France, is shown in the accompanying illustrations. It consists of a frame carrying a cistern to contain the liquids that are to be treated. A pipe shaft furnished at each extremity with stuffing boxes or steam glands carries a series of double convex steam chambers, which give a large evaporating surface. The method of driving the machine is shown. When steam is admitted and the machine started, a series of ladles or small buckets, the form of which may be varied according to requirement, dip into the liquid contained in the cistern, and carrying it up, pour it in a thin layer over both sides of the double convex steam chambers. These ladles are not attached closely to the chambers, but at the bottom a line aperture is left, so that when the ladle is lifted from the liquid it immediately commences the distribution of its contents over the faces of the chamber; that which is not delivered in this manner being discharged from the top. It will thus be seen that the evaporating surfaces are utilized to the fullest extent. Of course, the portions of the chambers which are continuously in succession immersed in the cistern are doing efficient service at the same time. The contents of the cistern can speedily be raised to the boiling point, and the evaporation then proceeds rapidly. The water resulting from the condensation of the steam employed is discharged at one end through a pipe.

Where it is not desired or agreeable to work the machine open, a cover can be adopted, as seen in the section, and the vapor discharged outside the building. Evaporation can be conducted at a temperature as low as 70°, and at a very high one when required.

These machines are made in all required sizes, and of various types, in metal suitable for their requirement, as iron, lead—soldered lead, and copper, according to the different branches of industry in which they are intended to be used. Their capabilities are very great, one of the capacity shown in the figure evaporating 880 gallons in 24 hours. —Textile Manufacturer.



CHENAILLIER'S UNIVERSAL EVAPORATOR.

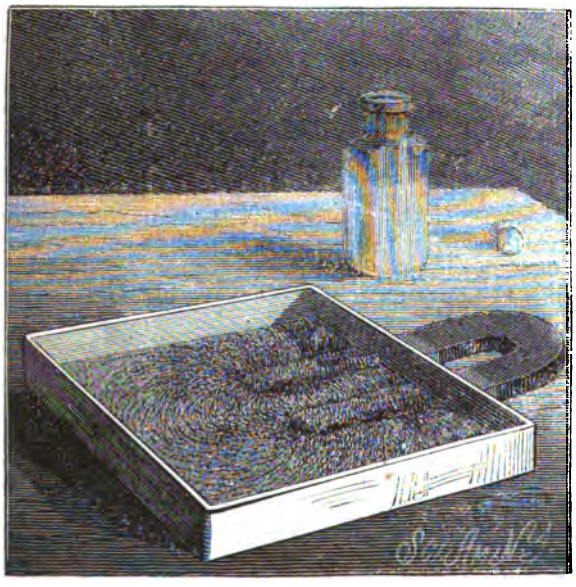
From an Article on the Adulteration of Soaps, treating the subject very extensively by L. R. A. Wright and C. Thompson in the Analyst, we take the following: In connection with the presence of sugar in soap it is to be noticed that this admixture is very rarely made except in the case of transparent soaps; with this class of soap, however, the use of sugar to the extent of a large fraction of the weight of actual soap present (sometimes almost equaling it!) is the rule, and the exceptions thereto very infrequent, although small quantities of genuine transparent soap are still in the market, made by solution in pure spirit (so as to eliminate free alkali), and addition of glycerin (only) to clarify. As to how far this admixture of large quantities of sugar in a product sold at many times the price of sugar is justifiable, we will not stop to discuss; but it is at least evident that products ought not to be sold stated to contain glycerin (as the agent added to aid in procuring transparency) when that substance is entirely absent, sugar being substituted for it. Such a practice can only be compared with the sale of butterine as genuine butter, and ought to be equally punishable.

Commercial Calomel.—Mr. C. F. Hall read a paper at the late Ohio Pharmaceutical Association meeting on this subject, in which he detailed the results of examination of four specimens of calomel labeled: (1) Powers & Weightman, (2) Rosengarten & Sons, (3) G. Mallinckrodt, and (4) English (probably Howard's). Under the microscope none of them presented the Pharmacopœial appearance—needle shaped crystals—but were rounded, dot-like crystals. No. 1. Pure white in color; density 7.00; volatilization complete; mercuric chloride absent; fixed impurities absent; ammon. compounds absent. No. 2. Pure white in color; density 6.93; volatilization complete; mercuric chloride absent; fixed impurities absent; ammonium compounds absent.

No. 3. Very faint buff tint; density 6.94; volatilization faint stain on lid; merc. chlor. absent; fixed impurities a trace; amm. comp. absent. No. 4. Decided buff color; density 6.89; volatilization dark stain; mercuric chlor. faint cloudiness with silver nitrate; fixed impurities trace. None of the samples corroded polished steel when spread upon it mixed with absolute alcohol for half an hour.

EXPERIMENTS IN PHYSICS.

In a series of articles in the Scientific American, T. O'Connor Sloane describes some very interesting experiments in physics. In the accompanying illustration some iron filings floating upon a shallow coated surface by means of a very thin layer of lycopodium are made by means of a magnet to display very peculiar figures. A tray of paper made water-proof by treatment with shellac or melted paraffine may be used to contain the water. A shallow layer of water is placed in it, and the tray rests upon the poles of a powerful magnet. It is dusted with lycopodium, the excess is blown off, and iron filings dropped on the surface from a considerable height. The filings may need a little assistance by jarring, but they will often, without it, arrange themselves in the magnetic curves, as shown. At the poles, where the attraction is strongest, and where most filings accumulate, the magnet draws them down, depressing the surface quite curiously, but not with power enough, under ordinary conditions, to break through the film. It is a case of two forces being insufficient to over-



EXPERIMENTS WITH LYCOPODIUM.

come the surface strength. Here gravity and magnetism co-operate, but cannot break through.

In the other illustration the production of a steam vacuum is shown. A small amount of water is brought into a state of ebullition, and maintained so for a few minutes. The flask is then inverted quickly into a bowl containing more than enough water to fill it, its open neck reaching well down to the bottom of the vessel. For a moment nothing

EXPERIMENT IN CONDENSATION OF STEAM.

happens; but as the steam begins to condense, water rises rapidly into the flask, filling it completely, sometimes with such violence as to break it.

This experiment may be performed with an Italian wine bottle from which the straw cover has been removed. It is an historical experiment, and was performed with one of these identical bottles by Capt. Savery, one of the early inventors of the steam engine. The account of the experiment may be found in volume 2 of Experimental Philosophy, by Dr. Desaguliers, published in London in the year 1734.

A MOTTO.—There is an old saying, "Practice what you preach."

"Year after year," said J. D. Sourwine, of Brazil, Ind., at the late meeting of the Indiana Association, "we meet and discuss the patent medicine nostrum business in our meetings, and from the pulling and hauling it receives one would naturally suppose (particularly an outsider) that it was getting to be a very objectionable feature of our business. Now, answer me; how is it with you, my brother pharmacist? You must take it right home, for I mean you and no one else. When we return home from this meeting probably the first customer that calls will ask for one of those despicable, miserable nostrums. Perhaps one of those iron bitters or kidney and liver cure remedy is wanted. Who is there of my hearers who will refuse to sell just what is asked for, and be glad to do it? You will hop around the counter, take down what is asked for, and, if the party is not just positive about it, you will volunteer a little information to help sell it. Then you will wrap it up as though you were ashamed of it, put your cash away and count up the profit you have made, and say to yourself that beats no sale all to pieces. Have I a hearer engaged in the drug business who can escape this? If so, I insist on hearing from him. He is a model and entitled to the badge of innocence, with a recommendation from this Association to engage in some other pious calling.

WHAT THE JOINT MEETING AT PROVIDENCE MEANS.

BY GEORGE J. SEABURY.

In the attempt made by the retail druggists to organize themselves nationally they soon discovered that the plan of organization originally adopted was faulty, and that experience proved they could not continue the methods employed, and be a power nationally. A better and more simple plan was suggested and approved, that of organizing by State delegations. The latter plan, on investigation and trial, will be found to be the true plan, for sympathetic and practical reasons, particularly as nearly all of the prominent and earnest members of the National Retail Druggists' Association are also members of the American Pharmaceutical Association.

Last year the first spark that illuminated the situation enabled us to discern the future of the two associations and will undoubtedly result in a strongly cemented union. By resolution of the American Pharmaceutical Association, all matters relating to trade interests and pharmaceutical exhibitions were transferred to the National Retail Druggists' Association. We need hardly add that this compromise between the progressive and the retrogressive elements in the American Pharmaceutical Association was a surprise. At the same time, immediately following the adoption of the above resolution, several charter members of the American Pharmaceutical Association were also ready and willing to transfer the arrangements and entertainments to the sister organization.

This division and separation, resolved upon in a moment of confusion and derision, will assuredly have to be rectified at the next meeting, for the simple reason that a dual representation is superfluous and clashing. It will be very much better if all the arrangements, both local and general, be delegated to one large committee, one of whom, naturally, will be the local secretary, and then all work in unison with a common object in view—the success of the meeting.

A few of the annual and constitutional grumblers of the American Pharmaceutical Association who have not advanced with progressive pharmacy, have, for the past few years, entirely overlooked the protective and legislative side of pharmacy, and indeed any interests that tended to elevate and make more prosperous their brother pharmacists, but they have persistently, and let us say to please their vanity, conscientiously (?) chosen the plan which the Association, when it was a mere babe, adopted, and they never seemed to have learned, as the great majority have, that the Association has outgrown its juvenile garments. There are several reasons why this position is taken by those few members, yet they are perfectly plain to all who will inquire into the subject. They who are in fat places and well-to-do, do not care to listen to the cry of distress because it does not concern them, and because it requires of them services that they are unwilling to grant in any good cause—in other words, they are without the motives or impulses of modern good Samaritans, whether opulent or in modest circumstances. Questions of trade interests or legislation have generally been repugnant to the individuals referred to. The majority of the members are not attached to this Spartan band of Bourbon heroes and unselfish enthusiasts, nor have they joined this Veteran Mutual Admiration Society, yet the fact remains that the members who have accomplished most in the Association are independent, and have arrayed themselves on the side of advanced pharmacy in all of its directions. Therefore, the progressive element is naturally solicitous of the general welfare of a national society, and there is a strong determination on their part to consolidate at the next meeting, and, for once in our national existence, to truly represent the entire field of pharmaceutical research and interests—scientifically, legally, professionally and commercially—thus enabling us to embody in one association the highest possibilities, championed by earnest members, and governed by capable committees, from the various States in our Union, and not too bountifully from any one State, as it has been in the past.

The pharmaceutical exhibitions heretofore held under the auspices of the American Pharmaceutical Association, which (as previously stated) have by resolution been transferred to the National Retail Druggists' Association, will, it is safe to predict, be as interesting displays as heretofore,—and perhaps more so. With a consolidation of both associations there is every reason to believe that our meetings will be larger and that, by a division of labor among several new committees, we are liable to secure excellent results, and not, as heretofore, have but a few committees or a council alone to attempt to do all the work of the association. When the task of the committees, properly arranged, is undertaken under a popular and sensible management, it gives to every individual participator a degree of pleasure that simply adds more force and more exertion to such labor—especially that portion of the work for which there is no compensation—known as love labor. No matter how well done at times, it would be visionary to assume that we would be able to please everybody—that would be an impossibility—yet our aim should be to please an overwhelming majority. That this step is necessary no one will deny who has for the past years been a regular attendant at the meetings of the American Pharmaceutical Association.

The condition of pharmacy at present is one of which all enthusiastic members should feel proud. We have now nearly twenty eight States with pharmacy laws, and there is no doubt but that the balance will soon follow. Such laws as are in existence, while they are not perfection in themselves, are certainly excellent stepping-stones to something higher, and will do much to improve the status and prosperity of pharmacy throughout the country.

It will be inferred, consequently, that we must look forward to a strong national society, founded on State representation, which will require intelligent and progressive treatment on pharmacy laws, pharmacy boards, ethics, teaching colleges, and practical and scientific pharmacy, in all of which we have a direct and common interest.

It would be unfortunate if we were compelled, through the want of cohesion, to establish four special associations—one to consider questions that are purely pharmaceutical—another to look after our legislative and protective affairs,—a third

to establish a code of strictly professional matters —and a fourth to look after our trade interests. It would be absurd to make any such proposition. The American Pharmaceutical Association, with a membership of nearly two thousand, is capable of considering and defending our mutual and general interests in one national association. It is an old story, and we all know it by this time, that in concentration there is always strength; in dilution there is always weakness. Homœopaths may not agree with us. We never could have accomplished what we have up to date if it had not been by the union of our minds and untiring devotion. While we have not succeeded in everything, our success has certainly been great throughout the entire country, and it will continue to increase.

One association properly organized and directed in the interests of the whole country will be sufficient, without dividing or weakening ourselves. The solution is exceedingly simple, if the detrimental and disintegrating traits of jealousy and envy are removed from our counsels. The discussion last year on the adoption of the New York and Brooklyn Formulary is sufficient evidence that a great deal of jealousy exists in our ranks, which we certainly should dispel, no matter how influential any college may be.

For years there has been too much one-State government in the American Pharmaceutical Association, and not enough United States government, and there is where all our difficulties are lodged. With the acquisition of the members and committees of the National Retail Druggists' Association, we add greater strength than it ever before possessed. The men in the national organization are exceptionally intelligent, talented and progressive, and, as the great majority in the Retail Association have no special axes to grind, or colleges to champion or represent, they are likely to plead and act for all the colleges and institutions of pharmacy throughout the country.

The necessity of combining the two associations is greater since so many States are organized, and, for our future advancement and protection, this change must take place. No thoughtful member will perceive it from any other standpoint, but let the change be a peaceful adjustment and rearrangement among ourselves. The methods and objects with which members of the American Association were content ten, fifteen or twenty-five years ago, are thoroughly inadequate for the present American Pharmaceutical Association, which, since its birth, has grown to prodigious proportions, and the association must be alive to its opportunities as well as to its responsibilities, not only to pharmacy, but to our profession and to our members, and not drive them off to secure protection under the banners of a sympathetic and separate organization, especially when the matters treated by them are of the highest possible consequence to both. In a fraternal unification of both societies there are no obstacles whatever to be encountered. The advantage will be wholly to the parent society on the ground that it becomes in reality, and not in theory, a true National Association with higher and broader aims. The constitution of the American Pharmaceutical Association plainly presents the aims and objects of the association for which it was created, but which have been often ignored, and reads as follows in Articles 2, 3 and 5:

"1st. To encourage proper relations between druggists, pharmacists, physicians, and the people at large, which shall promote the public welfare and tend to mutual strength and advantage.

"2d. To improve the science and art of pharmacy by diffusing scientific knowledge among apothecaries and druggists, fostering pharmaceutical literature, developing talent, and encouraging home production and manufactures in the several departments of the drug business.

"3d. To suppress empiricism and to restrict the dispensing and sale of medicine to regularly educated druggists and apothecaries."

Do we not recognize in the slumbering spirit of these paragraphs that it includes every interest centered in pharmacy? It means pharmaceutical literature; it means a formulary; it means our colleges; it means scientific culture; it means trade interests; and, in fact, it means anything for our mutual advantage.

Our course is clear; there are no obstacles to be confronted excepting those that annually introduce themselves, and which can be easily removed and made historic. The fact that the American Pharmaceutical Association was created for the purposes above enumerated seems to have escaped the attention of several of the members of the veteran organization, and it is about high time that they took down their American Pharmaceutical Association dictionaries and wrote out a definition of its objects, as found in the Constitution of the society. Is it, then, fraternal for the members of the American Pharmaceutical Association to calmly assure the members of the National Retail Druggists' Association that they are a body associated for the purpose of treating purely scientific matters, and refuse to consider any other questions, and compel them to establish a new society? Is it wise for any of us to indorse and recommend this position? For my part, my answer will be negative—"no;" a big "NO."

The constitution of the American Pharmaceutical Association covers the general concerns of pharmacy without any further amendments or arguments, but the trouble is that the rebellious element does not feel disposed to interpret it in this manner, and often legislates for the association during its absence, and it will never do otherwise until compelled to. Having eyes they see not; having ears they hear not; neither will they understand. The old name is good enough. There is no necessity whatever of changing one line in the constitution. It might be prudent and just to remodel some of the by-laws, and the government of the central organization, and not put into the hands of the council too much power, under which powers it has actually become a mutual admiration society, and it is almost farcical for the association to go through the comedy of voting each year. The whole government is pre-arranged after the manner of political caucuses—an admission which I regret to make, but which is, nevertheless, true.

I simply make these observations to show the other side of the picture. I do not think it probable or possible, but let us merely assume it. Suppose the managers of the American Pharmaceutical Association refuse to treat trade interests and

other allied questions. It would not be very difficult for us to establish a National society by State delegations, under the flag of the progressive element of the country, and name it the National Pharmaceutical Association, or the National Pharmaceutical Society. All that would be necessary then to complete the society, and to swell its membership quickly, would be to add a special section for scientific and advanced pharmacy, to their constitution. There would be no difficulty whatever in making this change any more than in acting on the first and best proposition. In a fusion of the two bodies the Committee of Arrangements and Entertainments can create the greatest happiness for members that desire to enter into strictly scientific discussions. The whole society would be better organized from beginning to end, by devoting certain days and sessions entirely to special work, and I am sure neither branch would attain in any other way as good results, for the reason that nothing will be interposed to interfere in any shape or form, when it is understood that extraneous subjects or alien questions will be ruled out of order—why nothing could be more harmonious or satisfactory to any section of our association.

The continuous enactment of pharmacy laws is developing strong State associations, and, as the latter annually increase their membership, this revolution and new order of affairs naturally tends to decrease the numbers that formerly visited the American Pharmaceutical Association, particularly when no State organizations existed. Pharmacists, as a class, are not bankers; but few are able to expend the time and money and to attend more than one meeting. Our genial member, Mr. Sloan, has submitted to us what appears to him as a conundrum, and seeks light from members by inclosing them a postal card query; the causes inquired for are comprehensible to every thoughtful member of the association, and are unanswerably answered as follows:

The first reason for a lack of interest in the meetings when papers are read, is due to the establishment of strong State societies.

The second reason is the object and aim of this article.

Lastly, an impracticable time for our meetings.

The meetings of a National society should be early in August or late in July, when the dullness of our business life will warrant a few days' recreation. We must, therefore, with resignation and philosophy, look for a decrease in attendance in the American Pharmaceutical Association, unless a change take place in its constitution and objects. The only stimulus that can be introduced to resuscitate it is the creation of a truly National society by State delegations, primarily; secondarily, the State representation to be followed by representation from colleges, pharmacy boards, local associations, and individual members who will act jointly on all matters calculated to defend and preserve our whole interests nationally.

Should the National Retail Druggists' Association, under a new and more appropriate title, resolve to become an independent society, and not act the part of a Siamese twin combination, and should the American Pharmaceutical Association refuse to advocate and represent the clear purposes of its organizers, then it will be wise, advisable and necessary to establish a new organization, with clearly defined purposes, and march forward for complete union and national progress.

Nationalizing the associations through State delegations in the work particularly transferred to them will create no confusion whatever. It will separate itself from any complication in the same manner as meetings of the boards of pharmacy, meetings of the teaching colleges; and certainly no argument can be advanced that it will in any manner interfere with the details and arrangements of the work of the association. It will soon become necessary for all State and local boards of pharmacy and committees on legislation to convene annually, and act in unison in any amendment to our State pharmacy laws, or to a uniform observance of rules and regulations in State and inter-State boards, in the several sections of the country.

No member, however clear as to the sources of discontent, would recommend separation, so long as the grievances are remedied, but rather than surrender to an oligarchy in the association, we can appeal to our members, for we want representation for every State in our Union, and no preferred stock in any special college or section.

These convictions are not new; they have been reiterated by our most earnest members who, like myself, have witnessed on many occasions the tendency of the governors to stubbornly ignore questions that elevate pharmacy professionally and commercially.

If we must be aggressive, let it be against those who are opposed to legal, commercial and scientific advancement. While we battle for peace and prosperity, let us remember that the first conditions of success demand justice, unity and progressiveness among ourselves. Let us hope that wisdom and fraternal impulses will prevail at our next meeting at Providence, and be a Providence in reality for our future welfare.

A BOTANICAL TRIP.

Not long ago I had the offer of a pass with a party of friends to Southern Indiana. We had read in the geological reports about the picturesque cataracts and canyons of that region, of wonderful caves in which the explorer could travel miles among stalactite and stalagmite columns, of strange rivers that rose suddenly out of the ground and, after flowing for a time as rivers should in surface channels, suddenly disappeared from view beneath the ground again, and we read also of a flower especially interesting to the enthusiastic botanist. I had pressing work to do, but these inducements, particularly the last, were irresistible; so I accepted the proffered pass and went. To economize time we decided to go at night and return the next night, giving the intervening day to exploration. We found, as we emerged from the car, that we were emerging into a rainstorm. For this we were entirely unprepared. The station agent, too, not anticipating the arrival of any passengers, had locked the station and gone home. It was three o'clock in the morning, and pitchy dark. We looked in vain among the dusky outlines of the

two or three houses whose roofs were dimly discernible against the sky, for something that looked like a hotel, but not receiving any encouragement, we sheltered ourselves as best we could under the eaves of the station-house and waited for daylight. At last, tired of hugging the side of the station-house we sallied forth, and succeeded at last after a pretty thorough wetting, in finding a place of shelter, and had the opportunity to dry our clothes and refresh the inner man. Then, after the long forenoon had nearly passed away, the rain slackened and the clouds began to show signs of breaking away. After much trouble we succeeded in hiring a conveyance (a covered one could not be procured) and started. By this time, however, the rain had begun again and it kept up persistently until long after we found the grateful shelter of Miller's cave six miles away.

We here lighted our lantern and traveled inward a long distance from the light of day. A stream of considerable size, sufficient at least to turn a mill, flowed through the cave. The latter is in fact its channel, but, like other streams, the channel was much larger than the stream itself, so we could walk along its side most of the way, now and then crossing from one side to the other. Squeezing ourselves through narrow passages and peering by the dim light of our lantern into several mysterious chambers in the underground silence, we came at last to a place where the wall was low and the stream lay directly athwart our path. The only way we could have proceeded would have been on our hands and knees through the stream. This we declined to do, and so returned to the mouth of the cave, on our way taking a photograph of one of the larger galleries by aid of a light made by burning a bit of magnesium ribbon with which one of our party had provided himself. The storm had lulled when we reached daylight again, and we proceeded to explore the surroundings of the cave. The little stream that emerges from the cave leaps over a precipice about 40 feet high, forming a beautiful fall, and then goes foaming down a rocky ravine and disappears in the wooded valley. Above the mouth of the cave the overhanging rocks are 30 or 40 feet high, tree-clad at the top, and with some trees maintaining an insecure foothold on the sides. The steep, almost perpendicular, wall of the ravine below was lined with trees, shrubs and herbs of various kinds. Ferns grew out of the crevices in the rocks, the wild hydrangea with its large cymes of white flowers was particularly abundant, the butternut, Kentucky coffee tree, red-bud tree, locust, honey-locust, red and white oaks, maple, tulip-trees and beeches were prominent among the trees; the Virginia creeper and Poison Rhus clambered over the rocky walls; the black raspberry bushes were abundant and loaded down with their luscious fruits; the blackberries were also exceedingly abundant, but not quite ripe. Among the underbrush was noticed also the curious bladdernut tree and at the roots of one of them I observed abundance of the wild ginger, Asarum Canadense. The spot is one of great natural beauty. We could realize this even under the unfavorable circumstances of our visit and were desirous of seeing as much of this interesting country as we could. Accordingly we hurried away after collecting some specimens and taking a few photographs, to explore Spring Cave. On our way we could not help admiring the magnificent trees along the road. These consisted of stately oaks, liriodendrons, black gums, walnut, butternut, elms, mulberry, hackberry, basswood, ash, and the most magnificent beech trees I ever saw.

Spring Cave, which we reached after a drive of about two miles, has much the same appearance at its mouth as the former one, but its surroundings are less beautiful. A cool stream of water flows through it as through the other, and it is said another opening to it exists a quarter of a mile from the one we visited, aud that the cave has been explored from one opening to the other, but we found the same difficulty in exploring it that we did in the other, only we encountered the difficulty very near the mouth of the cave.

This whole country it seems is honey-combed with caves. There is scarcely a forty-acre lot that does not contain its sink-hole through which the surface water drains to underground channels. Some of them are almost perfectly conical; some are empty and contain a hole in the bottom; others have their outlet stopped up and filled with water. Almost every stream, also, is in some part of its course subterranean.

It was 3 o'clock P. M. when we left Spring Cave. The rain had now entirely ceased and patches of blue sky could here and there be seen. Since it promised to be pleasant, we preferred to walk the five miles that lay between us and Gosport where we wished to take the cars, so we dismissed our teamster. It was a delightful walk through woodlands of rare beauty, and grass-carpeted fields. Along the rail fences and trailing over them the prairie rose displayed its wonderful wealth and beauty of pink blossoms; on the rocky hill-sides the hydrangea and fire pink frequently held almost undisputed sway; huge clumps of elder here and there ornamented the fence corners with its bright green foliage and its large cymes of fragrant white blossoms. But what interested us most was the great number of fine and shapely trees. Nature here had outdone herself in the production of beautiful tree forms.

The sun was setting below the western horizon when three tramps, footsore, tired, bespattered with mud and hungry, entered the little town of Gosport and inquired for a hotel. Two carried cameras and the other a tin box which the natives looked at suspiciously, but which was nothing more harmful than a botanical box well loaded with plant treasures.

The next morning saw us in our accustomed places and at our usual work in Chicago, and so ended my botanical trip. GOLDEN SEAL.

"The American Exhibition in London" is a new project which deserves the support of all Americans. Its object is to impress Europeans with the magnitude and variety of American industrial resources, the skill and ingenuity of American artisans, and to increase the foreign trade of the United States. In such an exhibition American pharmacy would and should occupy a prominent place.

Editorial.

The article by Mr. Seabury in this issue, advocating that the National Retail Druggists' Association be merged into the American Pharmaceutical Association, the latter then to assume the work of the former, as is its constitutional duty, is timely and logical. We have now two national druggists' organizations in a country containing thirty thousand druggists, about twenty colleges of pharmacy, double that number of State Pharmaceutical Associations, with an aggregate membership of nearly ten thousand, scores of local associations, pharmacy laws with few exceptions in all the States, druggists' journals with an aggregate issue far exceeding that of all other countries combined, and evidences on every hand of a remarkable activity and progressiveness in all matters relating to the welfare of pharmacy, and yet, in the face of these great facts, we find the combined attractions of the two national associations hardly sufficient to insure a quorum at the annual meetings! This state of affairs argues something radically defective in the spirit and management of the societies. Not only should the attendance be larger, but the work done should have more perceptible results. The A. P. A. has become somewhat exclusively and supercilliously scientific in its aims and work, and yet, with here and there an exception, its contributions to scientific pharmacy do not rank above those of an average State Association. It comes together once a year, listens to perfunctory speeches, rushes through the reading of a few papers, pays the authors of the balance the dubious compliment of "referring them," chokes off discussion at the first lisp of "entertainment," declaims against patent medicines, passes harmless resolutions condemnatory of certain evils, memorializes Congress with reference to possible and impossible legislation, perpetuates the ruling dynasty in the council, elects its officers and then dissolves, to be heard from no more until the next annual call.

Why is it that the A. P. A. is never heard from in Congress in promoting legislation in the line of its resolutions? It has done nothing to promote anti-adulteration legislation, it tolerates without protest to Congress the degradation of army apothecaries to the rank of menials, it takes no practical measures for the restriction or suppression of the monstrous patent medicine iniquity, it has repelled the great mass of druggists by its contemptuous indifference to odious excise and special taxation, and to all questions of trade interest. Instead of studying the practical needs of pharmacists and druggists, instead of extending to them sympathy and help, instead of constituting itself their advocate and defender in their various professional and trade relations, it has posed high on the pedestal of Science, and glowered at the vast throng below engaged in the menial occupation of earning a livelihood for themselves and families.

Of the N. R. D. A. it need only be said that it came with a mission, but with insufficient vitality to perform it. Hanging to the skirts of the A. P. A. from its inception, it was always regarded with more or less distrust, if not with contempt, by the mass of druggists who believe in the doctrine of "independence or death." If the N. R. D. A. lives as a separate body, it will be only through absolute divorce from the A. P. A., and by appealing for support upon a broad platform, asserting the equality of trade and science, and thus placing itself in harmony with the demands of its constituents, it would put the real before the ideal: the practical before the purely theoretical; the profit of the druggist before the distinction of the pharmacist. It is useless to attempt to ignore the fact that the great majority of druggists are in business primarily to make money, and that their studies are mainly directed to this end. Failing in this, their profession at once suffers a discount This is not, we are aware, the poetic view, but the plain truth might as well be told, and the policy of representative organizations shaped accordingly.

It may be assumed that the time for two independent and rival organizations has not yet arrived, if, indeed, they shall ever become necessary. The constitution of the A. P. A. is broad enough for all purposes, pharmaceutical, commercial and legislative. Let the parent society reconstruct its committees so as to insure decision, activity and work; let it step down from its lofty pretensions and take cognizance of all questions in which druggists are interested; let it become truly representative of the many, and not merely the idol of a select few; if deemed necessary, let it divide its work into departments, assigning to each its distinct functions and committees, and allotting to each its individual sessions. In this manner time would be economized and all members given an opportuntty of a choice of departments for attendance and discussion. All the advantages of independent organizations would thus be secured for all members, and the association assured a foundation deep and broad enough for an enduring future of greatest prosperity. This achievement is well worth the co-operation of every druggist, and it is therefore hoped that the attendance at the Providence meeting will be both national in character and representative in numbers.

In the special edition of the WESTERN DRUGGIST, October, 1885, it was suggested that the best means of preventing substitution errors was to keep the poison closet in confusion. This suggestion seems to have been received with much favor in the various discussions of the subject at the late association meetings. The mental condition which produces these errors is that of abstraction, and the attempt to save time by increasing the conveniences of filling prescriptions in a routine manner through systematic arrangement, has a special tendency to to aid abstraction on the part of a pharmacist troubled with business cares. To distract the pharmacist's mind from his business cares to the prescription before him is to strike at the root of these errors. This can best be accomplished by compelling him to make some mental exertion in connection with the immediate prescription. If he has to look for the ingredients, in lieu of having them ready to his hand, his mind will be fixed on the prescription and not on business cares. A trial of what Dr. Eccles calls "chaos in the poison closet" could not fail to have beneficial results.

The pharmacologist by adopting the following line of research, based though it be on a species of reasoning in circle, could not fail to achieve results of practical value. There are many drugs in the dispensatories which have certain medical properties assigned to them, yet which totally fail to produce these properties in the hands of most pharmacologists. Broom, for example, in England

long had a reputation in heart dropsy, yet in the hands of competent physicians it was repeatedly demonstrated to be useless, while the same substance proved of value in the hands of others equally competent. The discovery by Stenhouse of scoparin and sparteine in inconstant quantities in the broom explained the origin of the contradictions as to its virtues. The pharmacologist should examine with especial care drugs about whose virtues equally competent judicially-minded men give contradictory testimony as to the existence of active principles, alkaloidal or otherwise, whose inconstant presence would explain the contradictory testimony. By this means much of the therapeutical contradictions which lumber up the dispensatories would be explained in a manner which could not fail to greatly add to the results of pharmacology. The drugs about whose properties there is much dispute receive too little attention, and serve simply to encumber the pages of the dispensatories.

In commenting upon the tabular exhibit of the 10,000 prescriptions in England by the Chemist and Druggist, the Canadian Pharmaceutical Journal remarks that "A most remarkable feature is the relatively small number of proprietary articles, intended for physicians' use, but apparently little favored by the English prescriber. This class includes all the sirups, coated pills, chlorodynes, extracts, pepsins, foods, and even perfumes, eau de cologne, and all such like preparations, but, despite the comprehensive classification, the total only reaches 7 per cent of the whole. This branch of a druggist's trade would amount here to a much larger figure, as loyalty to the Pharmacopœia is lessened by proximity to the United States and the powerful influences of persistent advertising and personal canvassing."

The Chemist and Druggist, in noticing this compliment, says that "it is comforting to the British pharmacist to know that the case is so." But the case is *not* so, as Mr. Shuttleworth may have easily determined by comparing similar tabular exhibits of prescriptions in America. In the compilation of over 15,000 prescriptions by the Illinois Pharmaceutical Association last year, the percentage of proprietary articles was *less than one-half* that given in the C. and D. exhibit. The Illinois exhibit was quite comprehensive, being compiled from the different sections of the State, the largest proportion being from towns in the interiors, where proprietary articles may have been expected to be largely employed, and yet the total percentage was only three and two-tenths. In view of these facts, it is doubtful if our Canadian friends lose anything "by proximity to the United States."

Messrs R. H. Gordon, J. C. Wharton, J. G. Greener, J. T. Lellyet and J. O. Burge, a special committee of the Nashville Druggists' Association, made a report to the association July 27, 1886, and in consequence a call was issued for a State convention of druggists for the purpose of forming a State association and taking action as to the liquor law of 1882, under a recent construction of which not only the sale of alcoholic liquors on physicians' prescriptions is a violation, but the sale of paregoric, laudanum, tinctures, cologne, cooking extracts prepared with alcohol are also violations, and subject all parties selling them to the payment of a retail liquor dealer's tax. Under a recent decision by the Chancellor of the Nashville District every druggist in the State is liable to back taxes to the amount of $1,400. We report the proceedings elsewhere.

The tax on alcohol is, in view of the overflowing condition of the national treasury, not only useless but a great wrong to those domestic industries in which alcohol forms so important an item. It is a reversal of the policy dominant in all other industries. To tax foreign goods and encourage home production is the cardinal creed of a majority of one of the great political parties and of a powerful minority in the other; this principle is reversed in the case of alcohol-manufacturers, foreign goods being admitted free of alcohol tax, while the home article staggers under a three or four hundred per cent. import upon its productive value. It is time to demand its total repeal.

But, we are asked, should not "rum" be taxed, and reparation made in some form for the terrible economic loss occasioned by the liquor traffic? Should not "whisky," as one of the anti-necessities of life be taxed, and the necessities thus relieved of the fiscal burden? We reply, first, that the tax was never levied as a moral measure; second, the national government has now more money than it knows what to do with; third, if the purpose be really to restrict the liquor traffic and require it to bear its full burden of taxation made necessary by its frightful consequences to the public weal, then let the States which bear the burden and pay the taxes take the matter in charge, and levy and collect the taxes not, however, by taxation of the *product* (from fifty to sixty per cent. of which is used in legitimate manufactures in no wise relating to the liquor traffic) but by taxation of the *dealers*, making due exception of such as sell liquors for medicinal and other non beverage purposes.

By this means, an important industry may be freed from its fetters and given its rightful position in the fiscal policy of the nation; the moral results will be quite as salutary as under the present system; the revenue will inure directly to the benefit of the people in partial compensation for the taxes for jails, asylums, etc., made necessary by the liquor traffic; the tax will fall directly upon the responsible authors of the business; an opportunity will be afforded for exempting from tax dealers engaged in selling liquors for medicinal purposes, and also the millions of unfortunates who are guilty of no crime, save that of poverty and of no offense save that of being sick.

For these reasons the druggists of America may, with confidence in the justice and sacredness of their cause, demand of Congress the abrogation of the alcohol tax and also of the annual federal license exaction.

What water-gas was used by "Prof. O. Brunter, of Germany," to secure local anæsthesia by freezing, is not easily ascertained, but rhigolene and other petroleum derivatives have long been used to produce local anæsthesia by freezing. What is known as "water gas" varies according to the locality, but the use of rhigolene, liquified carbonic acid or other rapidly volatile gases, to secure local anæsthesia by freezing resulting from rapid volatilization, is an old story in anæsthesia. The sensational remarks about the "use of water-gas" in anæsthesia being destined to result in a "new era in surgery," could only originate in ignorance of the history of anæsthesia, or in a desire to puff some new copy-righted preparation.

It seems strange, considering the number of wealthy retired pharmacists, the origin of whose riches was pharmacy, that they should show so little desire to advance the interests of the profession to which they owe their wealth. Although many rich pharmacists have died within the past decade, not one has endowed a college of pharmacy or otherwise advanced pharmaceutical education. It is an accepted axiom in other professions that the wealthy members owe a duty to them in this respect, but this axiom does not seem to hold good in the case of pharmacy.

Queries and Formulæ.

WE cordially invite queries for this department on any subject of pharmaceutical interest. Correspondents will give their name and address, but initials only will be printed when desired. It is especially requested that they furnish such information as they may already possess on the subject embraced in their queries. Queries cannot be answered by letter. Communications for this department should be addressed to Editor of the WESTERN DRUGGIST, 69 Dearborn Street, Chicago.

142. THE RED COLORATION IN CARBOLIC ACID.—W. J. (Belleville, Ill.): The cause of the red color of carbolic acid has received a great deal of attention, and many theories have been advanced. Dr. Hager and many others have attempted to explain the phenomenon, but up to the present time the cause has not been absolutely determined. The discoloration has been supposed to be due to contact with ammonia found in the air, to phtalein, to the presence of a minute trace of iron, and also to the glass or the vessels in which the acid has been contained. The fact that the so-called acid, which is really an alcohol termed phenol, may differ considerably in composition owing to different methods of manufacture or other causes, may make the determination of the real cause somewhat difficult. For further information see articles on the subject in former numbers.

143. NORWEGIAN FEMALE DROPS.—R. A. W. (Black River Falls, Wis.) desires the formula for Norwegian drops for female diseases. By "female diseases" we suppose is meant the peculiar nervous disorders to which the sex is liable, manifesting itself in hysteria, etc. The domestic remedy for these complaints among the Scandinavians is chiefly "Moder Draaber," the formula for which is given in this department, query no 93, for May. Extemporaneously three parts of tincture of cinnamon and one part of tincture of castor may be dispensed.

144. PETROLATUM—CAUSE OF OPAQUENESS.—R. L. Hall (Apple River, Ill.) asks why petrolatum becomes opaque and decreases in density when rubbed up (triturated). This is quite a familiar illustration. It is quite likely that the phenomenon is due to a breaking up of the crystalline structure of the paraffin which constitutes the petrolatum, as when the substance is fused, it re-assumes the translucent form again upon cooling.

145. LIQUID BLUEING.—Subscriber (Scranton, Pa.) The following is extensively used as a blueing by laundries:

Prussian blue	ounces 3
Oxalic acid	" ½
Water	gallons 2

Dissolve the oxalic acid in a small quantity of water in which dissolve the Prussian blue; then add the whole to remainder of the water.

146. MOXIE NERVE FOOD.—A. F. F. (Chicago, Ill.,) desires to know the composition of "Moxie Nerve Food" extensively advertised "as a very lively enemy to rum," etc. "Though neither a stimulant, poison, tonic, nor medicine and contains not a drop of alcohol, yet it satisfies the drunkard's thirst better than anything else." * * "It has [we quote] created more excitement in the East than the railroad or the telegraph, and in Washington they all drink it from the President down." Such is the driveling language of a quack nostrum, boomed by a retired homeopath for the benefit of the dissipated elite. As usual, a romantic story goes with the nerve food, how it is prepared from a plant discovered by one Lieut. Moxie, and, "being entirely unknown to botanists," was named in his honor. A large reward is offered for any chemist who can produce its equal or give a correct analysis of the wonderful nerve food. This "Moxie," despite the wonderful tale of its discovery, and although so "wholly unknown to botanists" is we presume to say, a plant otherwise termed Avena sativa. The great "Nerve Food" is a decoction of oats made into a syrup and flavored with sassafras and wintergreen.

147. STICKY FLY PAPER.—John Lonquest (Cumberland, Wis.,) desires a good formula for the above. To make a sticky fly paper which will at all times be satisfactory is a practical impossibility. The "stickiness" of the paper depends upon the consistency of the adhesive material, and as this is changed with each variation in the temperature, a constant adhesiveness cannot be obtained. Material which is just sticky enough to hold the flies in cool weather, say below 70° F., becomes so thin at 80° F., or above, as to "run." The following formulas yield a very fairly satisfactory paper:

Take of Rosin, in clean pieces	ounces 4
Castor oil	ounces 2

Melt together upon a water bath and spread upon sized paper, or

Take of Rosin,	ounces 4
Venice turpentine	ounce 1
Castor oil	ounce 1

Proceed as above.

The paper to be used must be heavy writing paper, and it should be "sized" to prevent the composition from running through. The sizing is accomplished by spreading over the paper a weak solution of glue, and hanging the sheets up to dry.

148. PEPSIN WITH WAFER ASH.—Frank L. Wilson (Mantorville, Minn.,) desires the formula for the above, sometimes known as "Pepso Ptelea." This preparation is a glycerole of pepsin containing in solution the active principles of the bark of the wafer ash. The active principle of Ptelea appears to reside in an oleoresin in which the bark is very rich; it is no doubt a bitter principle and possesses tonic and stomachic properties, which are supposed to enhance the activity of the pepsin. The following formula is recommended·

Take of Oleo-resin ptelea	grains 256
Sacch. pepsin U. S.	grains 640
Glycerin q. s.	fl. oz 16

Dissolve the pepsin in the glycerin and add the oleoresin of ptelea and let the mixture stand for several days, during frequent agitation; decant the clear liquid and strain it. This glycerole contains five grains of saccharated pepsin and two grains of oleo resin of ptelea to the fluidram. It possesses the bitter taste of ptelea in a marked degree and is a very active agent for promoting digestion. The oleoresin of ptelea may be made by exhausting the bark with alcohol and carefully evaporating. Very little coloring or other extractive matter is present, and the oleo-resin is obtained almost pure.

149. Infusion of Ipecac.—Wick Bros. (New Hartford, Ia.,) inquire for a formula for the above. Infusion of Ipecac not being officinal, should be prepared from 10 parts of the drug to 100 of boiling water according to the general directions in the U. S. P. But the Pharmacopœia states that "the strength of infusions of energetic or powerful substances should be especially prescribed by the physician." Infusion of ipecac should therefore not be dispensed unless the strength is specified, as the general strength, 10 per cent. would be too great and so concentrated as to make its use dangerous. A formula is given in the National Dispensatory for infusion of ipecac, of 120 grains to 6 fl. ounces of boiling water, one fl. ounce to be administered every 4 or 5 minutes. This indicates the strength of a preparation for the purpose of an emetic—twenty grains to the dose.

150. Prescription Query.—Jas. Smith (Jonesville, Mo.,) inquires if there is any impropriety in the following prescription:

Syrup Hypophos.....℥iv
Ext. Turnera fld.....℥i
M. et. Sig.

It is presumed that a physician has a right to prescribe any remedy he chooses so long as he does not violate the confidence of his patients or the laws of the land. In the above there is nothing objectionable unless it were advertised in the "Mormon Elder's" suggestive style.

151. Test for Oil of Peppermint.—Geo. R. Slawson (Greenville, Mich.): A test for oil of peppermint, based upon the separation of menthol, appeared in this journal for February, '86, page 53, a process by which, it is said by Fritsche, dementholized oil may be distinguished from true oil of peppermint containing the full amount of menthol. Mr. A. M. Todd, a large oil distiller in Michigan, states subsequently, however, that the Fritsche's process is not to be relied upon. Mr. Todd, who is making a thorough investigation of the subject, will probably formulate a method by which the valuation of oil of peppermint may be effected, based upon the percentage amount of pipmenthol contained in the oil.

152. Liquid Saponaceous Tooth Preparation.—An "Old Subscriber" (Des Moines, Iowa) desires a formula for the above, or something similar to Sozodont. The formula for the latter will be found in this journal, March '86, page 91. We give also several formulas from Dietrich's Manual, an authoritative German work just published:

EAU DE BOTOT.

153. Take of Star anise, cloves, galanga and cinnamon, each..... 25.0
Cochineal..... 1.00
Acid tannic, bals. Peru, each..... 5.0
Oil peppermint..... 10.0
Oils rose 1.0; neroli 0.5; orris 1 m. Cumarin 1 grain..... .....
Alcohol dilute..... 1000.0
Macerate for eight days, then filter.

THYMOL DENTRIFICE.

154. Take of Thymol..... 20.0
Oil of peppermint..... 10.0
Oils, cloves, sage, each..... 5.0
Oils origanum, sassafras, each..... 3.0
Oil wintergreen, cumarin..... grains 5
Alcohol dilute.....1000.0
Red saunders q. s. to color. Macerate for one day, then filter. One teaspoonful is used to one glassful water.

ASBESTOS VS. FRENCH CHALK.

155. W. T. Carr (Trenton, Ill): French chalk is the mineral steatite, a magnesium silicate with the formula $4MgSiO_3 \cdot SiO_2 4H_2O$; it contains about 64 per cent. magnesia and 36 per cent silica hydrate. Asbestos is a magnesium-calcium silicate, and, according to a recent analysis, has the following composition:

Lime and Magnesia	37.84
Silica	41.69
Oxide of Iron	3.01
Potassa	0.85
Soda	1.41
Alumina	2.57
Moisture (hygroscopic)	3.04
Organic matter and water of hydration	9 56
Loss	.03
	100

There are two kinds, the Italian and the Canadian.

The two varieties have practically the same composition, and yet they differ very materially in physical character—the Italian being long and silky, while the Canadian is generally shorter in the fiber, and more easily damaged by exposure in its crude state to the action of water.

156. Incompatibility.—M. W. P. (St. Paul, Minn) sends the following prescription:

℞
Potassii iodidi ..... ʒii
Potassii bromidi ..... ʒiii
Syrupi ferri iodidi ..... fʒi
Syrupi ..... fʒi
Aquæ ..... fʒii
M.

Upon standing one week a greenish-gray precipitate had formed at the bottom of the vial, while a yellow crystalline (?) matter was found to float upon the surface of the liquid. An explanation is requested. The potassium salts of iodine and bromine are almost invariably alkaline, in order that the crystals may be stable. The iron in the syrup is in the form of ferrous iodide, a rather weak combination, and the iodine is attacked by the excess of alkali in the potassium-salt, liberating iron hydrate. This iron hydrate, which assumes the ferric form, being insoluble in the watery solution, is precipitated. As to the crystalline form floating on the surface of the liquid we have no evidence.

157. Essence of Malt.—L. B. M. (New York, N. Y.) inquires whether or not a liquid extract of malt can be prepared containing all the nutritive principles of malt without the addition of alcohol or antiseptics to retard fermentation. No; we think not. A liquid extract of malt must contain the same proportion of alcohol as beer to preserve it, which is about 6 per cent. The percentage of alcohol may be lessened by charging the liquid with carbonic acid, by the addition of glycerin or by anti-ferments. After being extracted, as in brewing, the diastase of the malt converts the starch into maltose or glucose. Allowed to ferment, alcohol is formed, but the amount of nitrogenized matter present is not sufficient to convert more than a certain proportion of glucose into alcohol. This percentage of alcohol in beer would not prevent it from going into the acetous fermentation were it not for the employment of an anti-ferment, namely hops. The bitter of hops is of all anti-ferments available for beer, because of being almost innocuous to the system, promoting digestion instead of retarding it as is the case of other antiseptics such as boric and salicylic acids. But it is not as powerful as these latter and therefore effective only in conjunction with a certain amount of alcohol. We have given this general outline of the process of brewing in order to better understand the character of malt and the decomposition preparations of it are liable to. In the manufacture of the officinal extract (semi-liquid) it is necessary to evaporate the infu-

sion of the malt as rapidly as possible to a viscid consistence in order to prevent fermentation, the extract in the presence of even 50 per cent. of water at a high summer temperature undergoing changes in a very short time. In view of these facts, therefore, a liquid extract cannot be made except preserved from fermentation by some of the above means.

159. PRESCRIPTIONS CONTAINING IRON PYROPHOSPHATE AND ACID.

NO. I.

C. (Negaunee, Mich.) desires to know whether or not the following was correctly dispensed:

℞. Quininæ Sulph	gr. xxxii
Strychninæ "	gr. i
Ferri pyrophosphatis	gr. l
Acid phosphorici dil	℥ii
Aqua	℥ii

M. et fiat sol.

The quinine was dissolved in the acid, the strychnine and iron pyrophosphate in the water, and the two solutions mixed, with the effect of producing a milky mixture. This prescription is a well-known tonic mixture largely prescribed by Profs. J. Adams Allen and Jos. Ross, of the Rush Medical College, Chicago. While it is possibly true that there are indications which can be met by this mixture better than any similar combinations, the disadvantages in its dispensing are so great as to suggest its employment only in exceptional cases. In addition to the insolubility of iron pyrophosphate in acid solutions we have also here to contend with the insolubility of the quinine sulphate in the watery mixture, resulting from the dilution of the diluted phosphoric acid. Both these substances being insoluble in the mixture, precipitate and give it the milky appearance. No agent can be employed to prevent the precipitation without also radically changing the character of the mixture. By excluding or neutralizing the acid, and adding alcohol to keep the quinine in solution, a satisfactory preparation may be obtained. The nearest approach, however, to an elegant preparation of these remedies is the well-known "elixir iron, quinine and strychnine pyrophosphate," and medical men should give it the preference. In the formula under consideration a tolerably satisfactory preparation is obtained by mixing the respective solutions gradually, by which the precipitation is more uniform, and the resulting mixture more homogeneous.

NO. II.

160. L. B. G. (Greentown, Ind.) sends the following and desires to know how it may be dispensed so as to obtain "a fine wine color:"

℞. Ferri pyrophosphatis	℥ii
Aqua (acid?) Phosphor. Dil	℥ii
Solution Strychn. (Hall's).	
Tinct. Cardamom Comp *aa*	℥i
Aquæ.	
Syrupi *aa*	℥iss

M. et ft. sol.

The same remarks as above apply to this formula. The red color of the tinct. cardam. comp. and solution of strychnine is discharged by the phosphoric acid in the mixture.

161. VARNISH FOR LABELS.—E. E. W. (Eldora, Iowa) desires a formula for a varnish to be put upon paper labels so as to admit of washing. Dammar varnish or white copal varnish will answer the purpose. In order, however, to prevent the label from being stained it should first be covered by sizing, a weak solution of glue or gelatin. After thoroughly dry the varnish is lightly put on with a soft brush.

INKS.

162. E. S. R. (Brainard, Kan.) School Ink (jet black)—Brande's from Beasley's Receipt Book. Take of

Logwood	ounces 25
Potassium chromate (yellow)	grains 56
Water	sufficient to make 1 gallon

Boil the logwood with water and obtain one gallon of infusion. In this dissolve the potassium chromate when cold, and mix thoroughly. To prevent the ink from deteriorating, when exposed to the air, a little sodium carbonate should be added. For other formulas see pages 246–'84 and pages 154–'85 of this journal.

COPYING INK.

163 E. (Canal Winchester, Ohio): Brande recommends the addition of 1 ounce of sugar to the pint (?) of the above ink.—Attfield. Evaporate 1 pint of ordinary ink to 10 fluid ounces, and add 6 fluid ounces of glycerin.

164 MOUSTACHE DYE.—J. M Grumby (Elm Spring, Ark.): The following is a preparation in *one* bottle, and is said to be satisfactory:

℞. Silver nitrate	grs. 60
Ammonia water	fl. oz. ½
Distilled water	fl. ozs. 2½
Olive oil	fl. oz. 1

Dissolve the silver nitrate in the water, add the ammonia water, and finally the olive oil. The mixture is to be shaken before used. (Please report if not satisfactory.)

165. SEALING WAX.—F. A. Thompson (Exeter, Neb.):

FINEST RED.

Venice turpentine	ozs. 4
Shellac	ozs. 7
Cinnabar	ozs. 4
Magnesia carbonate	dr. 1½

Melt the shellac and turpentine, add the cinnabar, and finally the magnesia in fine powder, triturated with a little oil of turpentine. Cheaper grades may be made by adding rosin and reducing the quantity of cinnabar.

PRESERVING COMPOUND.

166. Jno. F. Reed (Payette, Idaho) sends the following recipe offered for sale in his vicinity for the small sum of five dollars:

℞ Acid Salicylic	oz. 1
Acid Boracic	oz. 1
Soda Carb	oz. 1

Dissolve in five gallons of water. Warranted to preserve meat and vegetables, etc. He desires to be informed as to its harmlessness, and whether or not the soda is necessary.

The sodium carbonate is only added to insure the more rapid solution of the acids. In view of the large amount of water directed to be used it is not necessary. The acids alone are more powerful antiseptics without it. It is a difficult question to decide whether or not antiseptics like the above are harmful. In a general sense all antiseptics in food are harmful. But circumstances arise when their use is a great convenience, in which case this mixture, when judiciously employed, is probably as good as anything.

167. SQUIBB'S DIARRHŒA MIXTURE.—G. A. Wolfner (Tower, Minn.) desires the formula for the above.

℞ Tincture opium.	
" capsicum.	
" camphor	aa. ℥i
Chloroform	℥iii
Alcohol q. s	℥v

Mix. Dose, 30 to 60 minims.

It should not be used for children.

COMPOUND POWDER OF BISMUTH—Formula wanted.

KAERCHER'S PERSIAN BALM.—K. C. Kellogg (Chicago): This is a preparation somewhat similar to the many preparations for the skin lately introduced. The basis of all of these is a mucilage of tragacanth with an addition of glycerin, and perfumed.

A CORRECTION.—Subscriber (Cumberland, Wis.) calls attention to an error in the formula given last month for Elixir Quinine, Iron and Strychnine Pyrophosphate, page 271. When the liquids are mixed the quantity is 15 fluid ounces, and not five as published. The error in type must have been recognized at once.

PATENT MEDICINE FORMULAS.—H. W. Brown (Coldwater, Mich.) and others inquire for the formulas of a number of patent or proprietary articles. The majority of them are of purely local origin and use, and it is quite impossible to procure and examine such preparations at great cost, for the benefit, perhaps, of a single individual. As much of value may be done, however, in this direction, we should appreciate the co-operation of our readers. Let each endeavor to contribute some formula inquired for in this department, and thus benefit themselves, their fellow-pharmacists and the profession in general.

FORMULAS WANTED.

Slocum's Psychine.
McLean's Strengthening Cordial.
McLane's Volcanic Oil.
Kemp's Balsam.
Kitchell's Liniment.
Steketee's Neuralgia Drops.
Steketee's Pin-Worm Destroyer.
Dr. J. H. McLean's Healing Plaster Cuti Cream; (Probably similar to Persian Balm. See above.)
Heaton's Solution White Oak Bark for Hypodermic Injection.
Cuti Cura Soap.

D. (New Windsor, Md.) will find "Franckland's Water Analysis" (G. P. Engelhard & Co., $1) to contain full information.

Joseph A. Watson (Gilead, Mich.): Follow the regular analytical table for the analysis of organic and inorganic compounds in works on chemistry. For particular examination of oils see Prescott's "Proximate Analysis."

NOTES TO THE EDITOR.

I. C. Hauser (Sandusky, Ohio): We do not think that the brand of manufacture has anything to do with the insolubility of morphine sulphate. There is no good ground for believing that K. & M. should be better than P. & W., but on the other hand that the cause, as explained to the correspondent last month, is the true one.

In the July number of the WESTERN DRUGGIST W. W. G. gives his formula for making Elix. Iron, Quin. et Strych. We agree with him that making this elixir is a "terror," but if he will try this formula we think he will have better success.

℞. 1. Alcohol, absolute.....fl. oz. 7
Flavoring, q. s.
Sulph. quiniæ.....grs. 128
" strych....." 2
Mix and triturate.

2. Pyrophosphate iron.....grs. 256
Aqua.....fl. oz. 4

Reduce the iron pyrophosphate to a fine powder, first heating mortar and pestle. Add the water, and set aside until dissolved.

3. Syrup simple.....fl. oz. 5

Prepare Nos. 1 and 2 separately, add 2¼ ounces of the syrup to the alcoholic mixture, and 2½ ounces syrup to the iron solution; now add the iron gradually to the alcoholic mixture, constantly stirring until clear; finally filter. The result is an elixir that will be satisfactory.

WICK BROS.

NEW HARTFORD, IOWA, July 30.

OIL-CLOTH VARNISH.

Can you inform me what the makers of oil cloth use to varnish their oilcloths with?

What is this so-called "pure sperm oil" diluted with to make it fit for sewing-machine use? The pure oil "gums."

I have a way of repercolation that I have not seen mentioned. I use the Chicago College of Pharmacy narrow percolators, and put a small percolator at the bottom and then a larger one above it in a stand, and so on. When the drug to be percolated is packed in, the menstruum is poured in at the top and allowed to work through to the outlet of the small percolator at the bottom, where a rubber tube leads it to the receiving vessel. I find that I can exhaust the drug with a comparatively small amount of alcohol, and it is not quite so much bother as the Squibb's process, for after the menstruum is poured on it needs no more attention.

T——, JR.

REED'S LANDING, MINN.

Calcium Santonate is a white, tasteless powder, insoluble in water, possessing anthelmintic properties without being absorbed in the digestive tract. It is given in lozenges of one grain each.

A naphthol black color compound has been patented by Messrs. Meinhard Hoffmann and Arthur Weinberg, of Mainkur, near Frankfort-on-the-Main, Germany. This invention relates to a new method of manufacturing blue to violet coloring matters belonging to the azo group, the product being put on the market as a black paste or in solid form.

To mend china, a solution of gum arabic, to which has been added plaster of Paris until the mixture is the consistency of cream. A small quantity is applied to the broken edges of the china, and joined together. In three days the article cannot be broken in the same place. The whiteness of the cement adds to its value.

A CHILD POISONED BY ITS NURSE'S COSMETIC.—A German practitioner being called to see a five weeks' old child suffering from colic, and whose skin was of a dull bluish tint, was somewhat puzzled as to diagnosis, until looking at the nurse's face, and seeing it of a brilliant white and red tint. He touched the surface, which left a greasy stain on his finger, of a cosmetic rich in lead. This poisonous substance the nurse had long been in the habit of using.

CHLOROFORM AND MALE FERN FOR TAPEWORM.—Dr. J. G. Brooks (Medical and Surgical Reporter) recommends the following for tapeworm:

℞. Chloroform.
Ex. male fern..... aa f. ʒj
Emul ol. ricini (50 per cent.)..... f. ʒ iij

M. Sig.—All to be taken at once after twenty-four hours' fast. In every case the medicine was well borne, and the worm expelled entirely.

TOILET PREPARATIONS.*

ORIENTAL TOILET WATER.

Bichloride of mercury	grains	¼
Emulsion of almonds	grams	95
Tinct. benzoni	"	1

Dissolve the bichloride in the emulsion and add the tincture of benzoin. The mixture does not keep long and should be freshly prepared when called for.

*From Dietrich's Manual.

GLYCERIN TOILET WATER.

(Aqua Cosmetica Glycerini.)

Borax	grams	10
Oleosaccharate cumarin	"	1
Glycerin	"	50
Rose water	"	940
Tincture of amber	drops	2
Oil of Rose	"	5
Oil of Neroli	"	1
Solution of carmine	q. s.	

Dissolve the borax and oleosaccharate of cumarin in the water, to which add the glycerin and other ingredients with sufficient carmine solution to give the mixture a faint red color, then filter.

LILIONESE.

(Aqua Cosmetica Lilonese.)

Borax	grams	5
Carbonate of potassium	"	5
Rose water	"	900
Cologne water	"	50
Powdered soapstone	"	100
Glycerin	"	50

Dissolve the borax and carbonate of potassium in the rose water, add the cologne water; rub the soapstone to a smooth paste with the glycerin and gradually add to it the fresh solution; dispense it in blue glass bottles and direct to be shaken before using.

CREAM OF ROSES.

Cocoanut oil	grams	240
Water, warmed	"	90
Solution potassa (1.14)	"	280
Alcohol	"	20
Glycerin, syrup each	"	200
Powdered soap	"	50
Cumarin	"	0.1
Oil of bergamot	"	1
Oil of rhodium	"	¼
Oil of cinnamon	drops	3
Oil of orris	"	1
Tincture of musk	"	5

The first three ingredients are mixed and allowed to stand 24 hours; the mixture is heated on a water bath for three or four hours, then diluted with glycerin and simple syrup with which the soap has previously been mixed. Perfume the mixture with the remaining ingredients, and add sufficient warm water to make the whole weigh 1,000 grams.

TOILET HAND PASTE.

Sweet almonds, blanched	grams	300
Bitter almonds	"	200
Rose water	"	210
Powdered borax	"	30
Camphorated oil, spermaceti, each	"	50
Potato starch	"	200
Powdered soapstone	"	100
Cumarin	"	.1
Oil of bergamot	"	1.
Oil of rose	"	.5

Oil of cassia 5 drops, oils of cloves and sassafras each 2 drops, oils of ylangylang and orris each 1 drop, tinctures of civet and musk each 5 drops. The blanched almonds, borax and 10 grams of rose water are beaten together into a uniform mass, add the camphorated oil and spermaceti previously fused together; add the potato starch and soapstone mixed with 200 grams of rose water, incorporate thoroughly until a uniform mass is obtained, then perfume it with the remaining ingredients.

COSMETIC LINIMENT.

Glycerin	grams	20
Sulphur, precipitated	"	20
Alcohol, dilute	"	20
Ether	"	20
Carbonate of potassium	"	20

Rub the sulphur to a smooth paste with the glycerin in which the potassium carbonate has previously been dissolved; then add the other ingredients. To be applied at night and removed in the morning.

EAU DE LYS, DE LOHSE.

Oxide of zinc, soapstone, each	grams	10
Glycerin	"	20
Rose water	"	950
Spirit of jasmine	"	5
Oleosaccharate of cumarin	"	1
Tincture of musk	drops	3
Solution oil of orris (1:10)	"	2
Oil of ylangylang	"	1

Rub the two first ingredients with the glycerin; add the rose water gradually, and finally the other ingredients. This should be prepared fresh when called for.

TOILET POWDER.

(Weisser puder.)

Zinc white	grams	200
Powdered orris root	"	100
Powdered starch, soapstone, each	"	350
Oil of bergamot	"	2
Oil of rose	"	1
Oil of neroli	"	½
Cumarin	"	1-20
Tincture of musk	drops	5

The solid ingredients are mixed and rubed to an impalpably fine powder, and then perfumed.

RICE POWDER.

Oxide of zinc, orris root, each	grams	100
Rice flower	"	800
Oil of rose	"	1.
Acetic ether	"	1.
Cumarin	"	.03
Oil of geranium	drops	5
Oil of ylangylang	"	1
Tincture of amber	"	5

The solid ingredients are mixed and rubbed to an impalpably fine powder, then perfumed.

VIOLET POWDER.

Orris root, soapstone, each	grams	200
Powdered starch	"	500
Essence of jasmine, of musk, each	"	5.
Cumarin	"	.05
Oils of rose and bergamot, each	"	.5
Oil of ylangylang	drops	1.
Zinc white	grams	100

Reduce the solids to an impalpable powder, then perfume it.

Odoriferous Preparations.

FUMIGATING POWDER (NO. 1.)

Aromatic herbs, ground	grams	1,000
Benzoin	"	50
Storax	"	50
Fumigating essence	"	200
Ether	"	250

Transfer the coarsely ground herbs, free from dust, to a wide mouthed bottle and moisten them evenly and thoroughly with a tincture made of the remaining ingredi-

ents. Then dry it quickly by exposure to the air, and preserve it in a well stopped bottle. It is used for disinfecting, by placing a quantity on a hot plate, care being observed that the powder is not charred.

FUMIGATING POWDER (NO. 2.)

Sandalwood, yellow	grams	45
Sassafras	"	30
Cinnamon	"	10
Cloves	"	10
Cascarilla	"	5
Potassium nitrate	"	5
Water	"	80
Storax	"	25
Balsam tolu	"	25
Ether	"	50
Benzoin, ground	"	25
Olibanum "	"	20
Juniper berries, ground	"	5

Reduce the first five ingredients to a coarse powder, free from dust, then thoroughly impregnate it with a solution of the potassium nitrate in the water, and dry the mass thoroughly in the air. Dissolve the storax and balsam tolu in the ether, and evenly and thoroughly saturate the above, after which dry quickly in the air and immediately add the last three ingredients. Finally preserve in a well stopped bottle; when used for disinfecting, a quantity is thrown upon live coals.

FUMIGATING PASTILLES.

Potassium nitrate	grams	25
Water	"	750
Charcoal, powdered	"	900
Tragacanth	"	25
Storax, benzoin, each	"	20
Cumarin, vanillin, musk, each	"	2
Civet, oils of rose, bergamot, each	"	1
Oil of ylang ylang	min.	3
Oils of rhodium, orris, each	"	1
Oils of sandalwood, cinnamon, each	"	1

Mix the charcoal with the nitrate of potassium, dissolved in the water, dry the mass, powder; add the other ingredients and mix thoroughly. Beat the mixture to a plastic mass with the addition of sufficient mucilage of tragacanth containing two per cent. of saltpetre, and form into cone-shaped pastilles. In order to evenly distribute the storax throughout the mass, it may be previously dissolved in a little water.

FUMIGATING PAPER.

Benzoin, storax, each	grams	50
Alcohol, fumigating essence, each	"	100
Ether	"	50
Acid acetic	"	2

Dissolve the benzoin and storax in a mixture of the alcohol and ether, filter, and add the fumigating essence and the acetic acid. Spread the mixture upon bibulous paper and allow it to dry. To prevent sticking, dust the surface with talcum and preserve in waxed paper. When used the paper is simply warmed on a hot plate or over a lamp.

ANALYSES OF FACE POWDERS OF THE MARKET, BY H. W. SNOW IN "NEW IDEA."

No. 1—Swan Down.—Manufactured by Henry Tetlow. Each box holds two Troy ounces and contains, according to our analysis:

Zinc white, oxide	per cent.	38.9
Orris root	"	18.35
French chalk	"	42.75

No. 2—Wright's.—A harmless face powder manufactured by Alfred Wright, of Rochester, N. Y., claimed by its manufacturer to be "entirely free from lead or other poisonous minerals, and is no more hurtful in use than common starch." Each box holds one ounce and fifty grains. Upon examination it proved to be:

French chalk	per cent.	20.48
Corn starch	"	33.73
Bismuth oxide	"	0.8
Calcium sulphate	"	40.19

No. 3—Saunder's Bloom of Ninon.—Saunders' pure white face powder or Bloom of Ninon, manufactured by J. T. Saunders, Oxford street, London; claimed by its manufacturer to be a "delicate preparation for beautifying the complexion, free from anything which can possibly injure the skin." Each box holds one ounce and twenty-five grains. According to our analysis it contains corn starch, French chalk; calcium carbonate, 23 per cent.; bismuth oxide, 6 per cent. (equal to 6.64 per cent. bismuth subcarbonate), and zinc oxide 16.6 per cent. On the basis of this we offer the following formula:

Precipitated chalk	parts	23.00
French chalk	"	23 76
Bismuth sub. carb.	"	6.64
Zinc oxide	"	16.60
Corn starch	"	30 00

No 4—Pozzoni's (White).—J. A Pozzoni's complexion powder, manufactured in St. Louis, Mo., states on the label that it "imparts a brilliant transparency to the skin, removes all pimples, freckles and discolorations, makes the skin delicately soft, perfectly harmless, containing no arsenic or other deadly material." Found upon examination to be:

French chalk	per cent	55.95
Calcium Carbonate	"	31 25
Bismuth oxy-chloride	"	12 8

No. 5—Palmer's Lily White Tablet.—Palmer's Lily White Tablet for the complexion, prepared only by Solon Palmer, New York. Examination proved it to be:

Precipitated chalk	per cent.	42.5
French chalk	"	57.5

No. 6—Palmer's Invisible.—"Invisible, a delicate preparation for beautifying the complexion, free from all impurities, prepared only by Solon Palmer, perfumer, New York" Found upon examination to be silicate of alumina, magnesia, potash and soda, colored with carmine. The natural silicate is probably French chalk.

APONE—A COMPOUND TINCTURE OF CAPSICUM FOR LOCAL USE.

℞ Tincture of capsicum, parts		200
Ammonia water, parts		100
Essence of thyme		
Chloral hydrate, aa parts		10
Alcohol, parts		1,000

Mix.

This preparation is a local application in rheumatism and neuralgia.—N. Y. Med. Journal.

For the Removal of Hair.—Prof. Bartholow, of Philadelphia, recommends the following:

Sulphide of Barium, grains		60
Lime,	"	60
Powdered Starch,	"	120

Make into a paste with alcohol, apply until pain is felt, and then remove it. Its long continued use often results in the permanent removal of offending hair.

Naphthol and Conium in Skin Tingling.—Dr. J. V. Shoemaker (Medical Bulletin May, 1886) advises the following in skin-tingling:

℞ Ex. Conii	gr. x
Naphthol	gr. x
Ol. Camph	gttv
Lanolin	ʒss

M.

*Dietrich's Manuale.

MEDICAL NOTES.

BURNS.—Dr. Byrne (L'Union Medicale, June 1, 1886) advises the following as a substitute for carron oil:

Lime water, Chloric ether, of each....minims 45
Glycerin.....ounces 5
M. S. To be used like carron oil.

PÆONINE, an alkaloid discovered by Dr. Nagal, of Japan, in the Pæonia mountains, has been found to have emmenagogue properties of decided value.

ICHTHYOL IN NOSE REDNESS.—Unna (Journal de Méd. de Paris, 1886) advises the internal use of the following in the nose and face redness usually charged to alcohol:

℞
Ammon. Sulphoichthyol ..... 3i to 3iss
Aquæ destil..... 3v
M. S 15, gradually increased to 20 drops, morning and evening.

THE ESSENTIAL OILS are becoming noted for their abortifacient properties. Oil of amber and sassafras oil have been lately charged with serious effects in this particular; the women scarcely escaping with life.

URETHAN is being extensively recommended as an hypnotic in all sorts of conditions. It is said by competent observers to be of great value and destitute of danger in sleeplessness in people with heart and lung disease. In this last class chloral and the bromides cause great damage.

INTER-RIB NEURALGIAS are said to be removable by frequent gentle inunctions of the painful part with the following pomade:

Morphine muriate.....
Veratrine aa.....gr. iss
Cold cream..... .... 3iv
M.

FLUORINE IN MALARIA.—Dr. J. Lucas Bombay (Lancet May 22, 1886) has found ammonium fluoride of great value in the treatment of "ague cake" and malaria generally.

COCAINE SALICYLATE IN ASTHMA.—Mosler (Deutsch Med. Woch. No. 16, 1886) has found cocaine salicylate of much value in asthma.

THAPSIA PLASTER has been found by Dr. Jas. K. Crook (New York Medical Journal, July 10, 1886) to have the following disadvantages: The eruption produced by it has a tendency to spread beyond the desired limits, and the resulting local action is at times very severe, both of which qualities render its use rather undesirable among children.

ARSENIC BROMIDE IN PIMPLES.—Dr. W. T. Corbett (Medical Record, April 17, 1886) recommends the following in pimples:

℞
Arsenic Bromide..... grain 1
Alcohol .....drachms 2
Dissolve and add simple elixir.....ounces 8
A teaspoonful in water is to be given thrice daily.

LOTION FOR BALDNESS.—Dr. Tillbury Fox (New York Medical Journal) recommends the following lotion in baldness:

℞
Tinct. Nux Vom .....drachms 4
Tinct Cantharides ..... " 2½
Lanolin..... " 2½
Acetic acid ..... " 4
Rose water..... ..... ounces 6
Mix and use as a lotion.

COCAINE IN PREGNANCY VOMITING.—Weiss, of Prague, has found one-twentieth of a grain of cocaine muriate dissolved in alcohol and given every hour, of value in pregnancy vomiting.

POISON OAK POISON.—The following is recommended:

℞
Soda hyposulphite..... .....ounces 1
Distilled water..... " 8
Carbolic acid..... " 1
Glycerin..... " ½
M. S. Shake well and use as a wash thrice daily.

NEURALGIA LINIMENT.—Gueneau de Mussy (L'Union Médicale, June 19, 1886) recommends the following:

Essence of Mint... .....drachms 5
Tincture of Aconite..... " 2½
Chloroform..... " 1¼
Shake thoroughly and apply to the neuralgic spot on a piece of flannel.

DELIRIUM TREMENS FROM TEA.—Dr. W. B. Slayter (Lancet, April 24, 1886) has observed what he calls delirium tremens from tea chewing. The symptoms were such as occur in many conditions of exhaustion, and were no doubt indirectly due to the practice of tea chewing, which it would seem produces an exaggeration of the symptosm found in tea-tasters by Dr. W. J. Morton (Journal of Mental and Nervous Diseases, 1879). There were in Dr. Slayter's case, marked muscular tremors. The patient chewed on average half a pound of tea daily, which gave increased capacity for work. The habit is one common among the factory girls of New England. Dr. Slayter's patient had attempted to give up the habit, but had been unable to do so without becoming so nervous and fidgety as to be unable to work. From this case, and previous observations it would seem advisable to make a further pharmacological study of tea.

IRON PERSULPHATE IN PILES.—Dr. S. Wimpelberg (Medical Journal) has had very good results in piles from iron persulphate. An ointment containing twelve grains of the salt to the ounce, is applied night and morning to the piles.

SIERRA SALVIA IN GONORRHŒA.—Dr. W. A. Gordon (Gaillard's Medical Journal) has had good results in gonorrhœa from twenty drop doses of the tincture of sierra salvia, given thrice daily. It is usually given in glycerin, flavored with orange or lemon syrup.

TR. BENZOIN COMP. IN CHRONIC BRONCHITIS.—The following is in use in some of the Philadelphia college clinics in the treatment of chronic bronchitis:

℞. Tinct. cubebæ 3ssi
Tinct. benzoin. comp 3ji
Tinct. cinchonæ comp..... 3iss
M. Sig.—One teaspoonful in water every four hours.

DUMB CHILLS.—Dr. DaCosta (Medical Bulletin) finds the following of value in dumb chills:

℞. Quiniæ sulph ..... gr. xvj
Acidi sulphurici dilut..... mxvj
Syr. tolu..... f3j
Spts. æther. nitrosi..... f3j
Aquæ..... q. s. ad. f3ij
M. Sig.—One tablespoonful every two hours.

COLIC IN CHILDREN.—Condie (Cleveland Medical Gazette) recommends the following to prevent the return of colic in children:

℞. Ext. hyoscyam..... grs. iv
Magnes. calcin..... grs. xxiv
Pulv. ipecac ..... grs. ij
M. Ft. pulv. xii, et sig.—One every three hours.

Correspondence.

We invite brief letters for this department upon any subject of interest to the pharmacist or druggist.

The publication of communications implies no indorsement by us of their contents.

Names of correspondents will not be printed if so requested.

Address matter for this department to "Editor of the WESTERN DRUGGIST, 69 Dearborn street." To be in season for the next issue, letters should reach us not later than the 5th of the month.

AMENDING THE ILLINOIS PHARMACY LAW.

(Editor of the Western Druggist.)

The discussion of the merits and benefits of the pharmacy law, during the meeting of the Illinois Pharmaceutical Association, proved of lively interest to all. The condition of the drug business as portrayed by the Committee on Trade Interests is neither flattering nor comforting This committee states that the diminution of the profits of retail druggists was due to defects in the pharmacy act, which had increased the cost of conducting the business without sufficient compensating advantages. The law has not decreased the number of stores, while there has been an increasing sale of drugs and medicines by physicians. Every effort should therefore be made to bring the advantages of the pharmacy law amendments before the druggists. Mr. Green further stated, speaking in support of the adoption of the report, that "the statements that the physicians in the country are generally dispensing their own medicines, and furnishing articles that properly belong to the drugstore, to their customers, is strictly true, and can be substantiated by the country members of the association."

Dr. Rosa Upson, of Iowa, said in confirmation of the above: "One thing in regard to this pharmacy law that we have to contend with now, and have had all the time, is the filling of prescriptions by the physicians themselves. When I first went to Iowa, very few of them filled prescriptions, now the majority of them do."

The deductions from these remarks are that the drug trade is groaning under the burden of the pharmacy law (which increases the cost of conducting the business, without compensating advantage) and declining through lack of support from the physicians; that the aid of the physician is essential to the prosperity of the drugstore; that the physicians instead of indorsing and aiding the druggists, are isolating themselves and pfeparing their own medicines. What are the remedies proposed for these growing and crushing evils which are assuredly swamping the greater portion of the drug business through the country? In the first place, it is proposed as a measure of relief, to abolish the virtue of all college diplomas—pharmaceutical as well as medical—in so far as a diploma entitles the holder to a certificate of registration from the board. Seeing that the extra cost of conducting the business has admittedly arisen, from the cost of obtaining a *technical* as well as practical knowledge of the business, even as prescribed by a college course (which comparatively few are able to take), it is difficult to understand the economic effect of a more stringent measure which would empower the limited intelligence of the Board (some of whose members have not themselves graduated in pharmacy) to supervise, and when disposed, through any caprice or prejudice in themselves, or lack of the technicalities in the candidate, to discard and annul the finished work of college professors whose life has been spent in acquiring and imparting a thorough knowledge of pharmacy—thus relegating the candidate, however cautious and well versed in practical knowledge, to another season of application and consequent expense. The *economic* aspect of this course is not apparent to either clerk or proprietors. Would it not rather be in the direction of reform and economy, seeing that all pharmacists are equally elegible to positions on the board of pharmacy, and each equally competent in the eye of the law, to amend the law by directing the board to issue a certificate of registration to any candidate showing proof that he has spent five years of work and study with a registered pharmacist and is considered by him competent. This would afford protection alike to the trade and the public, and lessen the expense of graduating; and, consequently, materially lessen the expense of clerk hire. With regard to physicians who are growing so independent of the drugstores, some of the exponents of pharmacy are striving to demonstrate the lack of education in the physicians, taxing them with being incompetent to prepare the medicines they prescribe; which simple effrontery is being resented by a determination to let the druggists severely alone. Even where this presumed ignorance exists, the physician, in case of mistake, has the advantage of being able to cover his tracks. Even if physicians are required to pass an examination by the board of pharmacy before engaging in the drug business, this requirement would only act as an incentive to stimulate their study of pharmacy in their college course, and would in no way deter them from entering the business, but would conduce to alienate them all the more from the druggists. The scope of the drug business has become so limited through competition, and the profits so narrowed by the cutting of prices, that it is impossible for many druggists in the country to keep competent help, on account of the increased cost. Realizing continually that the drug business is nothing without the patronage of the physician, yet we are cajoled into the chimerical project of seeking relief from our demoralized state by legislating against him and further estranging him from us. The ever-present and ever-pressing question is, how can we druggists in the country win the good-will and patronage of the physicians?

With regard to the State board of pharmacy, and the eligibility of its members for re-election, there is probably room for legislative reform. While honoring the ability, and indorsing the work of the present board, there appears to be cogent reasons why its members should be more diversified in character, and their tenure of office shortened. These features could be embodied in an amendment to the pharmacy law, directing that three members out of the five who constitute the board should retire every year, instead of one as now, and that the retiring members should not be eligible for re-election.

This method would accord more with the spirit of democracy, which, pervading the institutions of our country, gives all an equal chance for the honors; or would at least bring the honors within reach of the main leaders of pharmacy some time during their natural life. The retiring member of the board, according to the present plan, will always be one of the three pharmacists named by nominating committee and recommended to the governor by the association, to fill his own vacancy on the board, both as a mark of courtesy and indorsement, and to avoid the sensitiveness which would arise from the omission of his

name; while it would be a slur on the intelligence and competence of the mass of the pharmacists of Illinois to insinuate they are not equally competent with the present members of the board to aid in directing the routine of examination work. The method of balloting for the nominees might obviate much feeling, and would be a safer criterion of the sense of the association. Thus, the more frequent change in members of the board would not impair its efficiency, but, on the contrary, stimulate interest in the progress of pharmacy in all sections of the State, as it is more probable by this plan that each district would occasionally be represented in the board. As we are seeking to compel all college graduates as well as ordinary students to submit to examination, this change in the tenure of office in the board might prove a safeguard against a continuation of any partiality in favor of or prejudice against any particular college or system of learning, should such exist in any member. A commensurate interest in the reforms suggested might save us from the shoals of penury and inure to the elevation of our profession.

A. O. WRIGHT.

WAUKEGAN, ILL., Aug. 2, 1886.

[Some of the points made by our correspondent do not appear to be well taken.

(1) It is true the pharmacy law has materially enhanced the cost of clerk-hire, but aside from the resulting benefit to the clerk, whose interests would seem to be entitled to some consideration, it should be remembered it has in probably even a greater ratio operated to limit the number of druggists and reduce competition. The trouble is that while the increased cost is evident, the increased value can only be estimated.

(2) It is safe to assert that the pharmacy act has not in the least alienated the patronage of physicians, for the reason that their rights have not been in the slightest abridged, nor is it even proposed now to deny them the privilege of preparing their own prescriptions.

(3) It is proposed to abolish diploma privileges simply to enforce the "democratic" doctrine of equal rights to all upon the basis of a uniform qualification test, and not the variable credentials of good, bad and indifferent colleges, or the "certificates" of any registered pharmacist who might be hired to issue them.

(4) A change in the *personnel* of the board is certainly at times desirable, though surely not for the purpose of securing a distribution of the honors of the office, which should obviously be wholly incidental to competency. The suggestion that nominations should be *viva voce* is to be commended. A committee report usually has too much the air of a "star chamber" proceeding.—ED. W. D]

"SPECIMEN ERRORS."

(Editor the Western Druggist.)

A most remarkable and highly valuable contribution appears in your estimable journal, page 273, "Specimen Errors." It is painfully agonizing to think through what a terrible experience said writer has been put by Providence during all his five long years of activity in the retail drug trade. This man, whose literary talent manifests itself so brilliantly in his prolegomena by saying, "I want to give you some of the errors," is making superhuman efforts in trying to uplift a rock which he could hurl at German pharmacists in general.

His task may be fairly compared with the one of Sisyphus in hades, whose exertions with the marble block were crowned with the same success essentially as the gentleman to whom this note applies. This gentleman, whom for convenience sake I will call Mr. X, has never in his life had the pleasure and honor of being acquainted with or enjoyed the friendship of a German pharmacist. In fact, a man of his experience socially as well as professionally, could not under any except very favorable circumstances be expected to have formed the very desirable acquaintance of a German pharmacist. It is actually a waste of time and ink to say much more in regard to Mr. X's awe inspiring experience except, "*Si tacuines philosophus fuisses.*" We wish him well, though, and willingly cover his feeble efforts with the wing of Christian love.

Respectfully,

OTTO GEORGE MILLER, Ph. D.

No 96 WELLS ST, CHICAGO, July 24, 1886.

REMINISCENCES OF DUMAS.

(Editor the Western Druggist)

It was with much interest and pleasure that I, a former student of the Paris *Ecole Centrale des Arts et Manufactures*, in which Dumas held the chair of Chemistry during 1843-6, followed the details of Dumas' life as given in the last two issues of the WESTERN DRUGGIST. This school was then the foremost school of the kind in Europe, and to it hundreds of students were attracted by the renown of the illustrious French chemist, then in the vigor of manhood. He had already become widely renowned for his skill as a chemist and his ability as a lecturer. He was then assisted by Poyer, Peligot, and others well known to the scientific world; the first especially renowned for his researches on starch.

On one occasion he read a letter from Liebig, with whom he was at the time engaged in an animated controversy respecting the generation and assimilation of nitrogen by the organic world and the value of nitrogen compounds in nutrition, in which Liebig claimed that the nutritive value of nitrogenized compound depended on the amount of nitrogen contained. Dumas remarked: "Surely the nutritive value of nitric acid does not depend on the amount of nitrogen it contains, nor is the strong acid assimilable by the organism."

Dumas lectured two hours twice a week at the above mentioned school, but the time was soon extended to three hours, so great was the interest excited by the lectures, which were largely illustrated by experiments. The three hours passed away like a few minutes. His lectures were always largely attended by all the students of the school; not merely the chemistry students. He held the audience spell-bound till the close, and there was a general feeling of regret at the close of the lecture, that it was over. He took particular pains to make himself understood by every one to whom he lectured. Often in his free public lectures he would, by questioning, endeavor to ascertain if he had been understood, and to find this to be the case was always a source of great pleasure Once when in our study-rooms we were suddenly notified to go to the lecture-room, and there we found Dumas with a metal capsule containing solidified carbonic acid, upon which he lectured, explaining the process of solidification by atmospheric pressure. This was then a new process, and in order to show it he had rushed over in hot haste from the Polytechnic school with the capsule. This was forty-three years ago. At least three-quarters of the students of the *Ecole Centrale* are gone, and Dumas survived most of them to depart at what, for such a man, seems the untimely age of eighty-three.

I have penned these few notes for your valuable paper in the hope that among the readers of the WESTERN DRUGGIST they might meet the eye of some old stu-

dent of Dumas. It would be a source of infinite pleasure to meet such a one.

A. STAADT.

POSTVILLE, ILL., August, 1886.

KANSAS SCHOOL OF PHARMACY.

(Editor the Western Druggist.)

Inclosed find questions asked at the Senior examinations at the Department of Pharmacy of the University of Kansas. Many druggists like to scan such questions, and clerks find them instructive. The professors of the pharmacy department are: L E. Sayre, Ph. G., Mat. Med. and Pharmacy; E L. Nichols, Ph. D., Physics; F. H. Snow, Botany; E. H. S. Bailey, Chemistry; D. H. Robinson, Latin.

AQUILLA.

LAWRENCE, KAN.

MATERIA MEDICA.

1. What is the botanical and geographical origin of the principal varieties of Rhubarb? Give the difference in structural character? What physical properties are present in the best varieties?
2. Distinguish between Resin, Gum-resin, Oleo-resin and Balsam? Give an official example of each, and state the behavior of the ones mentioned to various solvents?
3. Name the Nat. Ord., habitat, and the plant yielding Vanilla; at what stage of development is it collected, and how prepared for commerce?
4. Nux Vomica, Ignatia, Prunum, Ficus, Cardamomum, botanically. Describe these drugs, and state their value in medicine?
5. What two, so-called, worm-seeds are official? Give their botanical origin, habitat, constituents, and separately describe them?
6. Give the commercial source of three kinds of Aloes? Also point out the variations in the sensible properties which distinguish them? What principle is found in each variety, and its special chemical behavior?
7. Describe Crocus according to origin and structure. Name the adulterations and substitutions, and how they may be recognized?
8. What are the principal characteristics of the Nat. Orders Leguminosæ and Labiatæ? State the official names of three drugs from each Nat. Ord., and give the medical property and dose of each drug named?
9. State some leading characteristics, physical differences in the following leaves: Belladonna, Hyoscyamus, Matico, Senna, Uva Ursi and Buchu.
10. Write a short article upon the subject—Opium.

PHARMACY.

1. Explain minutely how to proceed in making the following: Tincture Nux Vomica, Liquor Plumbi Subacetatis, Ext. Ipecac, Ext. Belladonna.
2. Give a method by which Chloroform is made and purified. Explain the process.
3. Name five officinal Oleo-resins. How are they made? What principles are extracted and separated while making some of them by the official process?
4. How is the aqueous Extract of Aloes made? What are the ingredients in Compound Extract of Colocynth? What part of the plant is used in making Extractum Conii? What menstruum is used in making the latter?
5. Give an outline of the process for the assay of Cinchona Bark and Opium, and what percentage of principal constituents should the above drugs contain?
6. What is a glucoside? What is their behavior to chemical reagents? Mention two officinal, stating their physical medical properties and dose.
7. Point out the relation Gallic Acid bears to Tannic Acid, and state how they may be distinguished by chemical tests.
8. State the general character of Acidum Carbolicum, including Specific Gravity. From what is it obtained? How distinguished from Creosote?
9. Give brief general idea of fixed oils and fats. How do they differ from volatile oils? Explain the chemical reaction when Lead Plaster is made.
10. What is the source of Cream of Tartar? How is Tartaric Acid made? Explain the whole process of manufacturing it, and state the adulterations and mode of detection of the same.
11. Criticise four prescriptions given you:

(a) ℞.	Quiniæ Sulphatis	℈i
	Tr. Ferri Chloridi	f℥i
	Acidi Sulphurici Aromatici	℥ss
	Ext. Glycyrrhizæ, Fluidi	f℥ss
	Potass. Iodidi	℈i
	Syrupi Tolutani	℥i
	Aquæ, q. s. ft	f℥iv
(b) ℞.	Syr. Scillæ	℥i
	Ammon. Carb	℈ii
	Morphinæ Sulph	gr. i
	Syr. Senegæ	℥ii
	Aquæ, q. s. ft. solutio	f℥iv
(c) ℞.	Tinct. Ferri Chloridi	℥ss
	Liq. Ammon. Acet	f℥ii
	Spt. Ammon. Aromat	℥i
	Aq. Cinnamomi	f℥iv
(d) ℞.	Plumbi Acetatis	gr. i
	Acidi Tannici	gr. ss
	Atropiæ Sulph	gr. ss
	Aquæ Destillatæ	f℥i
	ft. collyrium.	

TOXICOLOGY.

1. What is a poison? How are poisons divided into classes?
2. What should be examined in a toxical investigation?
3. Note the special precautions necessary in the post-mortem and in the chemical examination.
4. (a) Name the metallic poisons. (b) Organic poisons. (c) Substances occasionally producing fatal results.

Give (a) symptoms, (b) antidote (c) toxic dose, (d) time to be fatal, (e) post-mortem appearance, (f) test for the following:

5. Lead,
6. Arsenic.
7. Strychnine.
8. Hydrocyanic Acid.
9. Aconite.
10. In the following case what antidote would you give; what process would you follow in testing the organs; what poison (if any) would you find? An acrid taste was noticed in the mouth, followed by severe pain in the stomach and abdomen, nausea, vomited matter contained much stringy mucous, severe and bloody purging, suppressed urine death preceded by syncope and convulsions. Death in four days. At the post-mortem it was noticed that the mouth was white and the mucous membrane tender, stomach inflamed in patches and of a gray color, bowels ulcerated; no perforation.
11. Give the outlines of Stas' process for the separation of the alkaloids from organic matter.

Answer ten questions, not omitting the tenth.

CHEMISTRY.

1. What is the source of Acetic Acid; its impurities? How are they detected? How can the strength of the acid be determined?
2. What is Arsenic, its solubility and tests; and the composition of the officinal solutions of arsenic?
3. What impurities are found in the following acids: Hydrochloric, Phosphoric, Nitric and Sulphuric?
4. What are the properties of Citric Acid, Hydriodic Acid and Nitro-Muriatic Acid?
5. What is an Alum? How is Carbonate of Ammonia made? What salts of Ammonia have the odor of NH_3? What is Sal Ammoniac?
6. How does Ag. NO_3 change by the action of light? What amount of the water of crystallization does this salt contain?
7. How is Fe_2Cl_6 made and of what use is it in medicine? What impurity is Bismuth apt to contain?
8. Write a formula for the preparation of KI, and give the impurities met with, in it, and how detected.
9. From what is KCN made; what are its properties; what effect has dilute Acetic Acid upon it? Give the chemical test for the Salt.
10. Name four volumetric solutions, and describe their value as chemical reagents.

ADDITIONAL EXAMINATIONS.

Analytical Chemistry.—Five hours' work in laboratory.

Physiological Chemistry.—Two hours, written.

Botany.—Three hours, written; collection of forty mounted specimens; analysis of sixty specimens.

Microscopy.—Mounting twelve specimens; five cross-sections of plants.

Laboratory Pharmaceutical Work.—Six hours making Lead Plaster; spreading plasters; making Cerates; Charcoal Ointment, without instruction; testing for impurities in Bromide Ammonium.

(Editor The Western Druggist.)

A lawyer friend here who courts the muses occasionally, evolved the following from his inner consciousness recently. Having once been a pharmacist, he apprehends the true inwardness of the healing art. The WESTERN DRUGGIST improves with each issue; the reports of different State Association meetings were excellent.

Very respectfully.

JNO. F. PATTON.

YORK, PA., August 3, 1886.

[Following is the song of the ex-apothecary mentioned. As it is harmless this weather, we may be pardoned this lapse into verse.]

OLD-TIME DOCTORS AND OLD-TIME CURES.

BY H. L. FISHER, ESQ.

When the ever-famous healing art was in its infancy,
It often happened on the score of sheer conveniency,
That the family doctor also doctored family, horse and cow,
For doctors were much *rarer* then than the rarest of them now.

And the system which they practiced was pure allopathy,
Three lengths ahead of Hahnemann's slow homoepathy,
(For he, with his *similia similibus curantur*,
And dose infinitesimal, could only go the canter),
They always rode on horseback, and generally the gallop,
With saddle-bags and pockets full of calomel and jalap.

And Epsom salts and senna too, and hellebore and borax,
And herbs and teas for stomach-aches, the bowels and the thorax;
And aloes for cathartics mild and ipecac-emetics,
Peruvian bark in Holland gin for gentle diuretics.

Moreover they came fully armed with "pu licans" and lance,
For to cut a vein or pull a tooth they never missed a chance.
With fiery mustard plasters, or with vile cantharides,
Or with devil's dung and opium they gave the patient ease!

If the patient was a clinic, his pulse was promptly felt,
His tongue was next examined, and his breath was sometimes smelt;
If not in doubt on diagnose of pulse and breath and tongue,
The doctor got his saddle-bags, and the treatment was begun.

If the case was chills and fever, or of trouble in the head,
The first thing to relieve it was to have the p tient bled;
And next to have him blistered, just for counter-irritation,
Then twenty grains of mercury for final sali vation.

If the patient prayed for water to cool his parched tongue,
They sent and fetched the parson quick, who prayed for *him* and sung;
If all these didn't kill him, it was not for want of skill,
Nor yet for want of m dicine, for of that he had his fill.

By this time his condition, perhaps, was very low,
And the doctors then consulted to decide what next to do,
(And they generally concluded it was "b st to put him through.")
And, lest anything might happen, the sick man made his will—
If he died, 'twas "providential," and the doctor made his bill.

But, such was the great endurance of the men of olden time,
That without a life-insurance they would live to eighty-nine:
Yea, in spite of old-time doctors, ipecac and ca'omel,
And the parson's *pater nosters*, *some* patients would get well.

The blacksmith and the tailor, and Saint Crispin's cobbling snob,
By turns each took his turn to do a little healing job;
To let, or check, or stop the blo d, or break the spell of witch,
While each one had the *only* salve that would surely cure the itch.

Each was a dental surgeon, but to tell the honest truth,
It often took the "three estates" to pull an aching tooth:
The tailor held the patient's head, the cobbler held his feet,
And the blacksmith pulled the tooth so hard he landed on his seat.

O Vulcan, still we honor thee—to thee the fame belongs—
Of improvising dentistry with hammer, punch and tongs;
And now, behold what better things thy follow'rs have devised—
Our painless teeth in jaws and gums which they have vulcanized!

Then out with every natural tooth—a troublesome mistake—
And give us acci*dental* teeth that won't decay or ache;
Behold the mouth of wrinkled age—its gracious grins and smiles—
A face almost restored to youth—as cheerful as a child's.

There were hundreds of home-remedies for all kinds of complaints—
All better than the best faith-cure or the prayers of the saints—
If the children had the measles or the matter was in doubt,
Th y had to drink sheep-saffron tea to drive the rascals out.

And if a child was liver-grown, or seemed to have a spell,
Three times put through a horse-collar would always make it well;
The blooming youths who freckles had, went on the first of May,
And with the early virgin-dew they wa hed them all away.

Although a wen was troublesome it never did much harm,
For speedily they cured it with the famous old snake charm;
They drew the snake by head and tail nine times across the wen
And as they drew it back and forth, each time they s id *Amen!*
Then took the snake and throttled it and wrapped it in oak leaves—
Or else they took and bottled it and laid it 'neath the eaves.

Or, early in the morning on the next first day of May,
To the nearest country grave-yard did the wen-der wend his way;
And there three times from off the grass, where the last youth buried lay,
He brushed and used the May-day dew to drive the wen away.

Another was the dead-stroke cure—the surest cure of all,
To stroke the wen across the head of a fresh-hanged criminal;
If all these did not cure the wen, they surely did no harm;
And therein lies the virtue of the faith-cure and the charm.

So, by still other homely means, still other ills were cured,
While yet, with all this homely skill, still others were endured;
But now, O, Esculapius, what wonders do we see!
Since doctors cure by miracles, what need have we of thee?

The condition of pharmacists in Russia is most deplorable. The situations of young pharmacists are indeed so sad that they often give up their occupation in order to learn a trade. There are even cases where they became coachmen or shoemakers. The main causes for this state of affairs are produced by: 1, the great opposition to wholesale drug merchants; 2, the dispensing physicians; 3, the complaints of the public about the high price of medicines; 4, by the neglect of the government to protect the interests of pharmacists in lawsuits, etc. Many apothecaries earn so little that they are forced to carry on some other business besides, as, for instance, horse dealing, grocery, tobacco selling, etc. A thorough reformation is an urgent necessity.

A WRITER in a California medical journal desires to be informed where celluloid tapeworm may be obtained, and the factory price per yard. In explanation he states that when the inland citizens go to the coast metropolis for trestment, they always return with the animal bottled as a trophy of metropolitan medical skill. As these were found to consist of celluloid, he would like to share in the monopoly for the benefit of his patients.

NOTES FROM GERMANY.

BY DR. OSCAR LOEW, PH. D., MUNICH.

G. Buchner found a specimen of preserved asparagus to contain tin and lead, dissolved from the tin can.

Wolf has demonstrated that disinfection can be much more thoroughly accomplished by steam than by hot air.

Vrij asserts that all commercial products of sulphate of quinine contain about 10 per cent. of sulphate of cinchonidine.

Mering found that dogs fed for some time exclusively upon meat show after the introduction of *phloridzin* a high degree of diabetes.

Inhalations of amylnitrite (3 to 5 drops poured upon linen held to the nose) are recommended as an antidote for cocaine poisoning.

A new institution for zoological research has been founded in Erlangen, and a new one for physiological research in Tübingen; both cities contain small universities.

The Senate (Bundesrath) of the German Empire has concluded to establish an Imperial Institution for research in technical and experimental physics, and voted $100,000 as the first rate.

Marpmann discovered five different species of bacteria in ordinary milk. Some of them are killed easily by boiling heat, others slowly. They are distinguished by their form and by the fermentative actions.

Pechmann has succeeded in preparing orcine synthetically by preparing acetondi carbonic acid from citric acid, treating the ether of that acid with sodium, and finally melting the product thus formed with potassa.

E. Schulze, who some time ago discovered a new substance ("vernin") in germinating seeds, has recently discovered another new crystalline body in them, which was called arginin, and bears some resemblance to kreatin.

Prof. Menudier, of Paris, has examined the 161 different materials recommended for the destruction of phylloxera, and found them all useless. The best thing is to introduce the American vine, which cannot be attacked by phylloxera.

Boehm investigated the constituents of the morel (Helvella es culenta) and discovered a poisonous acid $C_{12}H_{20}O_7$, which he called helvellic acid. It is easily soluble in water; hence morels are not more poisonous after being well washed with water.

Disse has discovered the syphilis producing bacteria in the blood of syphilitic persons. He cultivated these bacteria, and with them inoculated a little into rabbits, which indeed showed for months afterward the true symptoms of syphilis in many organs.

B. Homolka studied the chemical character of cantharidin. The silver salt compounds to the formula $C_{10}H_{12}O_5Ag_2+H_2O$; the cantharidinic acid $= C_8H_{13}O_2—CO—CO OH$; the cantharic acid obtained by treating cantharidin with hydriodic acid $= C_8H_{11}O—CO—COOH$.

We have to register the deaths of several prominent German pharmacists: A. Kostka died, 50 years of age; he was an apothecary in Ronsdorf, and distinguished by his promoting the formation of pharmaceutical societies and his attacks upon homœopathy. In Tharandt died recently, at the age of 77 years, Prof. A. Stockhardt, a chemist of note, who devoted much study to pharmaceutical and agricultural chemistry. Dr. Otto Ziureck died in Berlin May 20; he was well

known among pharmaceutical and analytical chemists, as well as among botanists. Prominent publications of this author are: "The Reform of the Apothe aries' Condition," "An Elementary Handbook of Pharmacy," "A Collection of Laws and Decrees Relating to Pharmacy and Medicine," 'Tchnological Tables and Notes," etc.

In order to examine vinegar upon an admixture of mineral acids, Föring recommends treatment of 5 c.c. with a little freshly precipitated sulphide of zinc (ZnS). If such an admixture be present, then sulphureted hydrogen will be developed, while pure acetic acid does not decompose that metallic sulphide.

The German Association of Scientists meets in September in Berlin. Guests are welcome. It will be a grand affair, as the city of Berlin has voted $20,000 for festivities. Among the different sections there is one for pharmacy, its president being Prof. Garke, apothecary Hormann (Berlin) being the first secretary.

A decision of the Hamburg court will not fail to make American pharmacists smile. A beer dealer sold a so called sani ary beer, which was in reality nothing else than the ginger beer well known in America, whereupon he was charged with selling a medicine, and hence incurred a fine of five dollars or imprisonment for four days.

A case of wholesale lead poisoning of cattle took place recently in the Harz Mountains. A large quantity of debris of the lead mines passes into a river near by. Occasionally inundations take place, and the river water containing finely suspended lead combinations passes over the meadows, and thus the grass is rendered poisonous.

A butcher in Lobtau was condemned to two years' imprisonment for having sold pork containing trichines, which caused the death of five women and the prolonged sickness of six other persons. He had neglected to have the meat examined, as the law prescribes. Cases of trichinosis are still frequent in North Germany, while in South Germany they are comparatively rare.

The turning rancid of butter is due, according to Duclaux, more to the action of lactic acid than to the direct action of bacteria, the former decomposing the glyceride of butyric acid quicker than the latter. Of course, the lactic acid is in itself a product of bacteria acting upon particles of milk sugar contained in all butter which has not been subjected to a prolonged washing.

Ranke recommends sterilizing every morning the milk used for children during the day. The milk is filled in bottles of about 150 cc., and placed in water slowly heated to boiling. As soon as the water boils, the milk bottle is closed well and kept in the boiling water for about forty minutes. Thus the bacteria that are often contained in great numbers in cow's milk are killed, and the danger of producing diarrhœa is avoided.

The Munich Apothecaries Society has recently celebrated its anniversary. The members of the society *have pledged themselves never to deal in patent or secret medicines*, and thus to diminish the evils of quackery. In the monthly meetings everything relating to the business interests, as well as to new scientific discoveries of pharmaceutical value, is discussed, and thus the meetings are rendered very interesting. Mr. Thaether is president.

Berthelot has studied the production of oxalic acid in different periods of growth of several plants, especially in Rumex acetosa. The dry seeds contain 0.05 per cent. of that acid; the dried plants contained on the 8th of June 0.14; on the 26th of June, 0.10; on the 27th of September, 0.03 of their weight of oxalic acid. The absolute quantity of the acid was continually on the increase, but the weight and size of the plants increased in a much higher proportion; hence the relative falling off of the acid, which is principally produced in the leaves, and only in small quantities in root and stem. The author believes that the formation of oxalic acid is due to a reduction of carbonic acid (Liebig's theory), and not to an oxidation of carbohydrates, as is the general opinion nowadays.

Wolfhügel has examined the potable waters of Berlin for bacteria. The waters of the Agnaedur from Stranlan contained in 1cc. from 1,000 to 5,000 bacteria; after filtering, however, only from 20 to 70. That from Tegel showed in 1cc. from 106 to 113 bacteria; after filtering, only from 20 to 35. The pump or ground water of Berlin was found to contain many more bacteria, the number of which amounted in one case in 1cc. about 11,960 individuals!!!

The Medical Society of Leipzig has passed a resolution to demanding of the Saxon government a law prohibiting the sale of secret or patent medicines before they shall have been analyzed, and the *analysis* and *price* of the *preparation* published in the main papers and journals of the country. Medicines or compound prescriptions *cannot be patented* according to German patent laws; but many *patent* medicines are introduced from abroad, and *secret* medicines are manufactured in great number in Germany.

The Blaser bill, which, as I mentioned in my last letter, proposed to abolish the present system of restriction in regard to establishing new drugstores, was defeated in the Prussian Diet upon the ground that it would be detrimental to the interests of pharmacy to give full liberty in this regard, as the case in France and Switzerland clearly shows. By the unlimited increase of drugstores a fight for material existence will develop, that will lower the scientific character and render finally the pharmacist a mere merchant.

Prof. Erlenmeyer publishes a warning against the habitual use of cocaine, this being far worse than morphinism. Patients who had used morphine for years, and preserved a good state of nutrition, lost after use of cocaine for a few weeks from twenty to thirty per cent. of their weight, though there was no diminution of the quantity of food. The appearance of cocaine eaters is far worse than that of morphine eaters, weakness of memory, insomnia, and aberration of mind soon manifesting themselves. The opinion that cocaine is a relatively innocent substance is entirely erroneous.

Of new books may be recommended:

"Taschenbuch der medicinisch pharmaceutischen Botanik und pflanzlichen Droguen Kunde," by Prof. W. Schimper. This book gives information about the main questions of the vegetable drugs.

"Anleitung zur mikroscopischen Untersuchung der Nahrungs-und Genussmittel," by Prof. W. Schimper. This book contains the most essential information about the microscopical investigations of articles of food. It is a very useful compendium of 140 pages, explaining the investigations of flour, starch, coffee, tea, cacao, tobacco, pepper, mustard, honey, etc.

"Die Mikroscopische Untersuchung des Schweinefleisches auf Trichinen und Finnen," by Dr. C. Roller. Trier, 1886. This book gives detailed instruction in regard to the investigation of meat upon trichinæ. Its simple and plain language commends the general use of it.

MUNICH BOTANICAL GARDENS, July 1, 1886.

Progress of Pharmacy.

THE DETERIORATION OF INSECT POWDER by age, is denied by F. M. Goodman (Drug Circular), who found that a specimen which had been stored in an exposed place for five years was more active than the recently ground flowers. This quality was attributed to the extreme dryness of the powder, the fine dust being most destructive to insect life.

THE STIGMA OF MAIZE (corn silk) has been investigated by C. J. Rademaker and J. L. Fischer (Am. Journ. of Pharm. page 870, '86) who found 5.25 per cent. of a light yellow fixed oil, readily saponifiable by alkalies and congealing at 50° F. Extracted with ether 2.25 per cent. solid matter was obtained, nearly one-half of which (1. p.c.) was soluble in water and left upon evaporation, by repeated treatment with ether a colorless acid crystalline principle. The original drug treated with absolute alcohol gave 3.25 p c. of extractive matter, consisting of resin, coloring matter and of the acid principle, in about the same proportion as in the ethereal extract. This acid was first discovered by Vautier, who named it maizenic acid. The aqueous extract amounted to 19.50 p.c. and consisted chiefly of sugar, gum and extractive.

THE COLORING MATTER OF LIRIODENDRON TULIPIFERA has been investigated by Prof. J. U. Lloyd (Am. Druggist), obtained by the following process: The fresh bark is exhausted with alcohol, some water added and the tincture distilled. After some days the aqueous liquid is filtered and evaporated to extract consistency. The extract is incorporated with a large amount of alcohol the alcoholic solution filtered and precipitated with ammonia. The brownish yellow precipitate is washed with alcohol, spread upon plates of glass and dried. It forms brilliant, deep brownish-red scales, slowly soluble in water with a yellow color changing to dark reddish yellow upon the addition of an alkali, but lightened by the addition of acids. It is readily soluble in aqueous solutions of alkalies but insoluble in alkaline alcohol, benzol, chloroform, or ether.

DISTILLED EXTRACT OF WITCH HAZEL, according to a report by Prof. H. C. Wood and John Marshall, who have recently investigated hamamelis and its preparations (Ther. Gazette May, '86) "must solely depend upon its virtues upon the alcohol which it contains and the faith which it inspires." [Tannin and extractive matter was contained in the leaves and bark, neither of which constituents were found in the distillate and from this it is presumed the condemnation of the distilled extract is based. If the learned professors had investigated the subject more fully, they would have found a volatile acid present in the distilled extract to which the witch hazel undoubtedly owes its virtues. Acids, differing from tannic acid, are present in many plants and volatilize with water but not with alcohol. There is no doubt that these represent in a great measure the therapeutic properties of the drugs.—ED. W. D]

SALOL IS A NEW THEURAPETIC AGENT, which may possibly supersede salicylic acid in the treatment of rheumatic affections. It is a derivative of salicylic acid, one atom of hydrogen being replaced by phenol. It is a white powder having a faint aromatic odor, nearly insoluble in water, but soluble with ease in alcohol. It is almost tasteless (owing to its insolubility in water) and is said not to produce the disturbances characteristic of the sodium salt of salicylic acid. Dr. Nencky, who has studied its physiological effects, states that it is resolved into components without undergoing any further decomposition. It is resolved into phenol and salicylic acid by the action of the pancreatic juice, and both of these substances are found in the urine Although containing 38 p.c. of phenol and imparting a high color to the urine, no intoxication is produced. Four grams have been administered as a daily dose.

THE IDENTITY OF THE ACTIVE PRINCIPLE OF POLYGONUM HYDROPIPER (smartweed) has been the subject of some controversy in the American Journal of Pharmacy. Messrs. Trimble and Schuchard, after investigating the subject, claim that the active principle is tannic and gallic acids. Mr. C. J. Rademaker made a chemical examination of polygonum in 1871 and found its active principle to be polygonic acid which he now, after further investigation, declares to be correct. In support of his statement he gives a series of tests (Am Journ. Phar. p. 374, '86) by which polygonic acid may be distinguished from tannic and gallic acids, and by which its identity may be determined.

DAVID M. R. CULBRETH, M. D., in a paper read before the Maryland State Pharmacentical Association, gives some interesting data regarding the manufactnre of fluid and solid extracts on the small scale. His experience demonstrated to his entire satisfaction the great advantage to be gained by home-manufacture. Mr. Culbreth, however, is of the opinion that if the strength of the fluid extracts were reduced so as to represent one-half grain of drug in each minim the process would be so much simplified that their manufacture by pharmacists would be more general. If the exhaustion of the drug with twice its weight, or bulk of menstrua by simple percolation alone could be assured, this modification of the fluid extracts may appear advisable. One class of half strength fluid extracts may dispose of the present necessity of two forms, namely tincture and fluid extracts.

THE oil of Indian corn has been examined by Prof. Chas. O. Curtman (Mo. Phar Asso.) who described it as follows: The oil when clarified by rest and decantation possesses a pale brownish-yellow color, specific gravity 0.916, odor reminding of corn, taste bland and of agreeable sweetness with a bitterish after taste, non-drying, standing in its general properties intermediate between olive and almond oils. With solution of mercuric nitrate it forms a fine citrin ointment and with Pontet's reagent elaidin abundantly. It is easily saponifiable by alkalies forming a white soap and with ammonia water a homogeneous liniment. By its low congealing point, not commencing to get turbid until—10° C. it is distinguished from other fixed oils. Since the oil is now easily obtained from the embryo, in which it is exclusively contained, owing to the invention of new grinding machinery which separates this portion from the rest of the grain, it may become useful in pharmacy and in domestic economy.

Reviews.

KOHLER'S MEDIZINAL—PFLANZEN ATLAS (Medicinal Plants) of the Pharmacopœias of Germany, Austria, Belgium, Denmark, Switzerland, Hungary, Russia, Sweden, Netherland, Great Britain, France, and United States. In 40 parts with four finely colored lithographic plates in each part. Edited by G. Pabst and Fritz Elsner. Gera-Umterahaus, Germany, 1884.

This work, the extensiveness of which may be inferred from the title, has now reached the 19th part, and the remaining parts are to appear in rapid succession. The value of this work to the apothecary in any country depends not so much upon the pharmaceutical or therapeutical portion of the work, as the botanical decription of the plants and their parts, used in medicine and pharmacy. The illustrations so far, however, are not only true to nature giving the natural shading of the coloration of the vegetation to a wonderful degree, but are indeed master pieces in the lithographic art. They are so decidedly superior to any similar work produced either at home or abroad as to make comparison out of the question. The glaring colors with which similar illustrations are usually decorated are here entirely unknown, the shading everywhere so delicate, yet so natural as to challenge the admiration of the most critical. As a guide to the student of pharmacy, to familiarize him with the natural appearance of the many drugs in the Materia Medica which it is impossible otherwise to learn, the work, even though the text be in the German language, must be a great boon. Upon the completion of the first volume of forty parts, it is intended to publish a second volume, to include all drugs not officinal in the Pharmacopœias as mentioned, but used generally in the Materia Medica.

BEILSTEIN'S CHEMICAL ANALYSIS.—By Charles O. Curtman, M. D.: Saint Louis, Mo. Druggist Publishing Co, 1886.

This second edition, arranged on the basis of the fifth German edition of Beilstein, is revised and greatly enlarged with additional chapters on the analysis of drinking water and of wine.

The intent of the work is to furnish a class book for the laboratories of medical and pharmaceutical schools and an aid to those who may wish to continue analytical work without the aid of an instructor.

The department of inorganic analysis remains substantially the same with the exception of the chapter on the detection of acids, which has been enlarged by adding detailed directions for their detection.

In the present edition Beilstein's original work occupies about one-half, after which are introduced examples for practice in the analysis of organic substances, as acids, alkaloids, glucosides, etc., of particular interest to the pharmacist. It also includes the volumetric assaying of alkaloids by Mayer's method, etc., and the analysis of drinking water, wine, and urinary sediments, with illustrations.

As a guide to students in practical analytical work in the laboratory, it will no doubt prove a valuable aid, its chapters on organic and volumetric analysis, in which reference is made to the standards of the U S. P. making it especially useful to the student in pharmacy.

ELEMENTS OF CHEMICAL ARITHMETIC.—With a Short System of Elementary Qualitative Analysis. By J. Milner Coit, Ph. D. Boston: D. C. Heath & Co. 1886.

This little work of about one hundred pages, which has recently made its appearance, will no doubt, prove a useful auxiliary to the many more extensive works on chemistry, treating as it does principally of the percentage composition of matter and stoichiometry. The work is replete with examples and calculations in chemical arithmetic which are frequently so puzzling to the young beginner of chemistry. The subject is an interesting and important one which the author has apparently brought within the comprehension of the average student. The second part is devoted to elementary qualitative analysis with tables of the kind found in chemical works generally.

UNIVERSAL-PHARMAKOPÖE. A comparative exhibit of the, at the present time, Officinal Pharmacopœias in Europe and North America. By Dr. Bruno Hirsch. The eighth and ninth parts. Leipzig: Ernst Guenther, 1887.

Judging from the size and completeness of the parts so far issued this work bids fair to be as comprehensive as its title indicates. The name of the author is a guarantee of the success and completion of the mammoth undertaking.

PROSPECTUS ST. LOUIS COLLEGE OF PHARMACY.—Twenty-first annual session, 1886. Jas. M. Good, Dean, 2348 Olive Street.

This college will occupy its new building the coming session. It will have three lecture rooms, laboratories and facilities for thorough instruction second to those of no other similar institution in the country.

MASSACHUSETTS COLLEGE OF PHARMACY.—Twentieth annual catalogue, 1886-'7, Boston. Chas. C Williams actuary, cor. Botholph and Garrison Streets.

This college will also soon occupy a building which, in elegant exterior, ample accommodations and modern conveniences will be without a superior. It will be centrally located among other institutions of learning in the city of Boston.

INDEX TO THE YEAR BOOK OF PHARMACY.—From the years 1864 to 1885 inclusive. London. Published for the British Pharmaceutical Conference. By J. & A. Churchill.

This is a well edited volume and invaluable to those in possession of the Year Book.

ANNUAL REPORT of the Board of Regents of the SMITHSONIAN INSTITUTION, showing the operations, expenditures and condition of the Institution for the year 1884: Washington. Government Printing Office, 1885.

REPORT of COMMITTEE on WEIGHTS and MEASURES of Boston Society of Civil Engineers.

Papers read at the meeting held March 3, 1886.

ANNUAL ANNOUNCEMENT of the SCHOOL of PHARMACY of the UNIVERSITY of MICHIGAN, for the nineteenth year, with a Register of the residences and occupations of the Alumni; 1886, ANN ARBOR.

Alumni are requested to advise the secretary, A. C. Schumacher, Ann Arbor, of change in address or occupation.

GOTTHILF H. E. MUHLENBERG, ALS BOTANIKER. Biographical sketch by John M. Maisch read before the Pioneer Association of Philadelphia May 6, 1886. Reprint from the Pharmaceutische Rundschau, June, 1886.

An interesting history of the great preacher and scientist so dear in memory to Pennsylvanians.

Societies and Colleges.

FACULTIES OF COLLEGES OF PHARMACY.

For particulars as to the course, terms, etc., at any of the colleges it is sufficient simply to address "..... College of Pharmacy" at the point named.

Name of College.	Materia Medica and Botany.	Chemistry and Analytical Chemistry.	Pharmacy and Practical Pharmacy.	Fall Term Begins.
Albany	A. B. Huested, M. D.	Willis G Tucker, M. D. Ph. G.	Gustavus Michaelis, Ph. G.	Oct. 4.
Buffalo	E. V. Stoddard, A. M. M. D.; D. S. Kellicott, Ph.D. F.R.M.S.	R. A Witthaus, A. M. M. D.	Willis G. Gregory, M.D.	September.
California (at San Francisco)	Fred Grazer, Ph. G.; H. H. Behr, M. D	F. P. Vandeeberg; W. T. Wenzell, M. D. Ph. G.	E. W. Runyon, Ph. G.	April, '87.
Chicago	E. S. Bastin, A. M.	H. D. Garrison, M. D.; W. Galloway, Ph. G.	N. Gray Bartlett, Ph. D.; E. B. Stuart, Ph. G.	Oct 1.
Cincinnati	Virgil Coblentz, Ph. G.	J. F. Judge, M. D.	J. U. Lloyd, Ph. G.	Oct. 6.
Cleveland				
Illinois (at Chicago)	W. Kerr Higley, Ph. C.	John H. Long, Sc. D.	Oscar Oldberg, Ph. D.	Oct. 1.
Louisville	C. F. Rademaker, M. D.	Emil Scheffer, M. D.	C. Lewis Diehl, Ph. G.	
Maryland (at Baltimore)	J. F. Moore, M. D. Ph. G.; D. M. R. Culbreth, A.M.Ph.G.	Wm. Simo., Ph.D., M. D.	Charles Caspari, Ph.G.	
Massachusetts (at Boston)	Wm. P. Bolles, M. D.; Chas. P. Pengra, Ph.C., M.D	G. F H. Markoe. Ph. G.; J. W. Baird, A.M., Ph.C.	Edgar L. Patch, Ph.G.	Oct. 4.
National (at Washington, D.C)	S. Waggaman, M. D.	Edward Whitfield; J. R. Walton, M. D.	H. E. Kalusowski, Ph. D.	
New York	Walter De F. Day, M. D.; Jos. Schrenk, A. M.	Chas. F. Chandler, Ph. D.; C. W. Parsons, Ph C.	P. W. Bedford, Ph. G.; Chas. S. Heebner. Ph.G.	Sept. 27.
Philadelphia	John M. Maisch, Ph. D; C. B. Lowe, Ph. G.	S. P. Sadtler, Ph.D.; Henry Trimble, Ph.G.	Jos. P. Remington, Ph. G.; Jos. W. England, Ph. G.	Oct. 1.
Pittsburg	G. W. Allyn, A M, M. D.	Hugo Blanck, Ph. D.	Henry Stevens, M. D.	
St. Louis	Otto A. Wall, M. D. Ph. G.; H. M. Whelpley, Ph. G.	Chas. O. Curtman, Ph. G.	Jas. M. Good, Ph. G.; Francis Hemm, Ph. G.	Oct. 11.
State University Departments.				
Indiana (at Lafayette)		R. B. Warder, Ph. G.	J. N. Hurty, Ph. G.	
Iowa (Iowa City)	C. M. Hobby, M. D.		Emil L. Boerner, Ph.G.	
Kansas (Lawrence)	F. H. Snow	E. H. S. Bailey	L. E. Sayre, Ph. G.	
Louisiana (New Orleans)				
Michigan (Ann Arbor)	Victor C. Vaughan, Ph.D. M.D.; Volney M. Spalding, A. B...	T. J. Wrampelmeier, A.B., Ph.C	A. B. Prescott, M. D., Ph. D.	October.
Wisconsin (Madison)	F. B. Power, Ph. D.; A. B Seymour, B.S.	Wm. W. Daniells, M.S.; Homer W. Hillyer, Ph. D.	F. B. Power, Ph. D.	Sept. 8.

BULLETIN OF PHARMACEUTICAL ASSOCIATIONS.

For information upon any subject relating to the affairs of any Association, address the Secretary. For information regarding commercial exhibits, address the Local Secretary at the postoffice designated as the place of meeting. Blanks in the table will be filled out on receipt of the required information, which we shall be pleased to receive from the Secretary or other officer.

Ph. Association.	President.	Secretary.	Treasurer.	Place and Time of Meeting.	Local Secretary.
Am. Phar. Asso.	Jos. T. Roberts, Baltimore, Md	J. M. Maisch, Philadelphia	C. A. Tufts, Dover, N. H.	Providence, R. I., Sept. 7	W. B. Blanding
N. R. D. A.	E. A. Sayre, Brooklyn, N.Y.	J. W. Colcord, Lynn, Mass.	F. H. Masi, Norfolk, Va.	Providence, R.I., Sept. 6	
N. W. D. A.	M. N. Kline, Philadelphia.	A. M. Merriam, Minneapolis, Minn.	S. M. Strong, Cleveland, O.	Minneapolis. St. Paul," Sept. 21	
State Associations.					
Alabama	A. L. Stollenwerck, Birmingham.	P. C. Candidus, Mobile.	E. P. Galt, Selma	Mobile, May 10, 1887.	W. F. Prince.
Arkansas	Dr. McDaniel, Arkadelphia	J. R. Colburn, Little Rock.	E. P. Schaefer, Little Rock		
California	W. Searby, San Francisco.	Chas. F. Troppman, San. F			
Connecticut	F. M. Wilson, Willimantic.	F. Wilcox, Waterbury	G. P. Chandler, Hartford.	Meriden, 1887.	J. H. Parker.
Delaware					
Florida					
Georgia	J. W. Stanford, Cuthbert.	H. R. Slack, Atlanta.	T. L. Massenburg, Macon.	Cumberl'd Isl'd, Apr. 12	
Illinois	B. F. Gardner, Atlanta.	L. C. Hogan, Englewood.	G. H. Sohroeck, Moline.	Decatur	W. C. Armstr'ng
Indiana	Leo Eliel, South Bend	F. Hereth, Indianapolis.	J. N. Hurty, Indianapolis.	Richmond.	
Iowa	A. H. Miles, Des Moines.	R. M. Upson, Marshalltown	C H. Ward, Des Moines.	Waterloo, May, 1887.	R. Ross.
Kansas	W. C. Sears, Burlington.	J. T. Moore, Lawrence.	C. D. Barnes, Abilene.	Wichita	C. D. Wangler.
Kentucky	J. W. Fowler, Louisville.	W. B. McRoberts, Stanford	J. J. Brooks.	Louisville, May 18, 1887	J. P. Allen.
Louisiana	O. Robin, New Orleans.	L. F. Chailin, N. Orleans.	J. B. Lavigne, New Orleans	New Orleans, April, '87	
Maine					
Massachusetts	Henry Canning, Boston.	J. W. Colcord, Lynn	F. H. Butler, Lowell.	Holyoke, June 7, 1887.	C. E. Bardwell,
Maryland	A. J. Corning, Baltimore.	M. L. Byers, Hagerstown.	S. Mansfield, Baltimore.	Ocean City, June 21, '87	
Michigan	H. J. Brown, Ann Arbor.	S. E Parkhill, Owosso.	W. Dupont, Detroit.	Grand Rapids, Oct. 12 '86	W. L. White.
Minnesota	J. R. Jones, Mankato.	E. F. Allen, Minneapolis.	J. C. Henning, Stillwater.	New Ulm, 1887.	
Mississippi	Byron Kemly, Jackson.	H. F. West, Natchez.	J. B. Dudley, Utica.	Jackson, May 17 1887.	
Missouri	H. A. Caffee, Carthage.	G. H. C. Klie, St. Louis.	J. M. Good, St. Louis.	Sweet Springs, June 15.	
Nebraska	J. H. Reed, Nebraska City	C. J. Danbach, Omaha.	J. Forsyth, Lincoln.	Omaha, May 10, 1887.	N. A. Kuhn.
New Hampshire	M.S. Woodman, W. Lebanon	G. F. Underhill, Concord.		—— Oct., 1886.	
New Jersey	F. B Kilmer, N. Brunsw'k	R. H. Van Sant, Trenton.	Wm Rust, New Brunswick	Paterson, May 18, 1887.	
New York	C. Z. Otis, Binghamton	C. W. Holmes. Elmira.	C. H. Butler, Oswego.	Thousand Islands Park	
North Carolina		J. C. Munds, Statesville.		Fayetteville, Aug. 11, '86	B. E. Ledberry.
Ohio	V. Cobientz, Springfield.	L. C. Hopp, Cleveland	C. Huston, Columbus.	Akron, June 8, 1887.	
Pennsylvania	J. A. Meyers, Columbia.	J. A. Miller, Harrisburg.	J. L. Lemberger, Lebanon.	Philadelphia, June 14.	
Rhode Island					
South Carolina		P. Wineman, Summerville.		Charleston, Nov., 1886	
Tennessee	G. W. Alb rs, Knoxville.	J. G. Rawlings, Chatta'ga.	J. G. Rawlings.	Cleveland, Oct, 1887.	
Texas	G. H. Rice, Boudera.	W. L. Tucker, Waco.	E. W. Lancaster, Marshall	For. Worth, May 10, '87	
Vermont					
Virginia	Hugh Blair, Richmond.	E. R. Beckwith, Petersburg	F. H. Masi, Norfolk.	Richmond, May 9, '87.	
West Virginia		C. Moekemeller, Wheeling.			
Wisconsin	F. M. Givens, Fond du Lac	E. B. Heimstreet, Janesv'e.	W. P. Clark, Milton.	Milwaukee, Aug. 9.	

WISCONSIN PHARMACEUTICAL ASSOCIATION.

The annual meeting of the Wisconsin Pharmaceutical Association was held August 9, 10 and 11, 1886, in Turner Hall, Fond du Lac. The hall was well adapted for the meeting. The entrance hall was eminently fitted for the commercial exhibit, which attracted general attention, both because of the tastefulness with which it was arranged and its adaptability for the display of such exhibits in the most attractive manner.

The meeting was well attended, the papers read were interesting and valuable, and the discussion thereon animated.

FIRST DAY, MORNING SESSION.

The meeting was called to order about 10 o'clock by the president, F. F. Prentice, Janesville, who said that the time for the opening of the seventh annual meeting of the association had now arrived. The local committee had made very complete arrangements for comfort and pleasure.

On motion of Secretary Heimstreet, reading of the minutes was dispensed with, after which the report of the Executive Committee was read. The Committee had examined the accounts of the Treasurer of the Association and found them correct. They then made the following recommendations: (1) That since the accounts showed three members to be in arrears for five years; seven for four years; twenty two for three years; forty-eight for two years, and fifty-three one year, it was recommended that the following members be dropped from the roll for non-payment of dues: B. Bantley, Milwaukee; F. H. Galbraith, Chicago; T. B. Colling, Albion; E. J. Edwards, Arena; H. & H. L. Warne, Whitewater, and R. H. Cowdray, Chicago. (2) The committee recommended that the expenses of the treasurer while attending the meeting be defrayed by the Association. (3) The Committee recommended that since the balance in the treasury was but $19.61, no money be appropriated at this meeting for any purpose other than the usual regular expenses and the treasurer's expenses. The death of Mr. Daniel Lynk, of Cumberland, was then reported in a fitting manner.

Mr. Hollister then on motion was allowed to introduce a new subject. He said: Realizing the fact that for several years the Association had placed no distinctive symbol of power in the hands of its presiding officers, he begged to be permitted to present something symbol cal of the Asso. iation; trusting that the pestle, used by all pharmacists, might remind them of the necessity of pulverizing in the mortar of patience and charity, into a smooth and noticeable mass, all questions which might arise. And that the spatula, so important an instrument in the hands of the pharmacist, might teach them to so spread the plaster of fraternal feeling and kindly regard for each other, that they should be more gloriously united in an honest endeavor to do more in the future for the Association than had been done in the past; thus admonishing them by these symbols to emulate the best workers in pharmacy. He then presented a unique gavel consisting of a pestle through the handle of which was run a spatula. His remarks elicited hearty applause. Mr. R. D. Pulford, of Mineral Point, responded, and on motion of Treasurer Clark, of Milton, the gavel was received with thanks.

Permanent Secretary E. B. Heimstreet then submitted his annual report. The total membership during the year was 349, 346 active and three honorary. Six members were dropped for non-payment of dues. There had been one death—Daniel Lynk, of Cumberland—since the last meeting. Nine certificates were issued, making the total number issued to date, 112. Adam Conrath, of Milwaukee, was reappointed a member of the Board of Pharmacy for the term of five years, by the governor. The thanks of the Association were due to the WESTERN DRUGGIST and other journals for courtesies, and it was shown that there were no outstanding debts and everything was in a prosperous condition. The report on motion was adopted.

Treasurer W. P. Clarke then read his annual report, which showed that the receipts for the year were $574.56, and the expenditures $404.95, leaving a balance of $69.61, (inclusive of $50 prize fund.)

Mr. S. G. Andrus for the Committee on Trade Interests, then reported that the drug trade had suffered from the prevalent depression.

The prices obtained had been fairly satisfactory and there had been less cutting, especially in patents than in previous years. Some grocers still indulged in the "cutting." While the mercantile aspect of pharmacy was relatively satisfactory, the same could not be said of the professional aspect. Individualism in pharmacy was being crowded to the wall by monopoly. Pharmacist and physician were drifting apart, owing to pharmaceutical manufacturers sending the latter elegant preparations ready for dispensing, and this led to more extended dispensing of medicines by physicians. In so doing the physician often injured his own profession since he soon became accustomed to dispense patents, and thus taught the people their use. To remedy these evils mutual action on the part of both professions was needed. Pharmacists should induce customers to seek a physician in place of recommending patients. The physician was a more natural ally of the pharmacist than the patent medicine man. The pharmacy law was effecting much for the benefit of the profession. The committee recommended that local societies be organized in every county. On motion the report was adopted and referred for publication.

The credentials of Drs G. M. Steele, Oshkosh; H. Palmer, Janesville, and J. W. Coon, of Montello, delegates from the State Medical Association; and J. A. Dadd, Milwaukee; J. C. Huber, Fond du Lac, and N. Goddard Chippewa Falls, delegates from the National Retail Druggists' Association, were presented, and the delegates received.

Messrs. W. P. Stearns, W. F. Kent and F. B. Cleggett were, on motion, appointed a Committee on Exhibits, after which the Association adjourned until 2 P. M.

AFTERNOON SESSION.

The recommendations of the Executive Committee as to applications for membership were read and adopted, and the members recommended elected.

Mr. F. M. Givens, the local secretary, then introduced Mayor Mayham, who welcomed the Association in a brief, eloquent address. He alluded in a very happy vein to the pharmacists of thirty years ago, and then contrasted them with the pharmacists of to-day. He complimented the Association on its commercial exhibit, andpaid a high tribute to the scientific skill of its members. He said pharmacists held no second place among men, and the obligations due them from the profession of which he was a member were incalculable. Personally, and in behalf of the citizens of Fond du Lac, he heartily greeted them and extended a cordial welcome.

After the applause had subsided, Mr. Hollister, on the request of the president, responded for the Association. He thanked the mayor for his cordial welcome, and briefly discussed the progress of pharmacy. Fond du Lac was to be envied for its situation, the quantity and quality of its water, and its pharmacists. The Association was delighted at the place of meeting and at being able to join hands in

working with the city pharmacists for the general good of the people.

President F. F. Prentice then delivered his annual address.

On motion, the address was referred to a committee consisting of Prof. Power, John A. Dadd and F. B. Robinson, and a vote of thanks tendered the president.

Prof. Power then read the report of the Committee on Adulterations. He said that no reply had been made by the members in response to his request for facts of interest in this connection. He had, therefore, been thrown on his own resources. No adulterated drugs had been presented him for examination, nor had any cases been reported, although he had no doubt that adulterated food and drugs were frequently sold. The suggestion had been made that the subject be referred to the Committee on Legislation in order to secure the appointment of a competent inspector who, in conjunction with properly qualified chemists and pharmacists, should examine drugs and food products. But no legislative action could be secured unless more evidence of adulteration was available. The system adopted in Paris, France, deserved emulation. The English system was a failure. People were, however, very indifferent to quality, if quantity and cost were satisfactory. Under existing circumstances pharmacists were able to exercise control over their own drugs. The Pharmacopœia, aided by the skill the pharmacist should have, would make him in this respect a public benefactor.

The report on motion was referred for publication. Sundry invitations to visit points of interest were here received and accepted.

Messrs. Hollister, Conrath, Schrank and Dadd, delegates to the A. P. A., then read their report. They had attended the meeting of the A P. A. and N. R. D A. at Pittsburg, September, 1885. There had been an interesting meeting of the last association. Plans of reorganization had been discussed, and the one meeting with most favor would be laid before the Association. The meeting of the A. P. A. had been fairly well attended. There was not sufficient system in its order of business. The movement tending to divorce the commercial aspect of pharmacy from the scientific was not calculated to advance the interests of pharmacy. There should be closer union. Wisconsin should be better represented in the A. P. A., as it occupied a very prominent position in American pharmacy. The report was on motion adopted, after which Secretary Helmstreet read a letter from Messrs. Powers & Weightman, of Philadelphia, discussing the frequency of mistakes in handling of poisons and urging the advisability of accepting the label used in Georgia—a scarlet label with white letters. After some discussion the matter was referred to the Committee on Legislation.

Mr. Chas. Bechmann then read a paper in answer to query 18, "Can an Elixir of Iron pyrophosphate, Quinine and Strychnine be made containing 2 grains of Iron pyrophosphate, 1 grain Quinine and $\frac{1}{30}$ grain Strychnine to fl. oz. which will not precipitate?"

Prof. Power then read the report of the Committee on Unofficinal Formulæ. The report evoked much discussion. It was a pretty generally expressed opinion that lactopeptine was an unscientific preparation, almost valueless and a monopoly; and therefore it was unanimously stricken from the list recommended by the committee. The meeting then adjourned.

SECOND DAY, MORNING SESSION.

The meeting was called to order and the report of Executive Committee on applicants for membership was read and adopted. The annual report of the committee was then taken up seriatim, and its several recommendations as before noted adopted.

Fraternal greetings were exchanged with the North Carolina Pharmaceutical Association. On motion a committee of three was appointed to visit the School of Pharmacy; the expenses of one delegate to be paid by the Association. The Wisconsin Board of Pharmacy then made the following report: The Board had held a three days' meeting in August, 1885, examining 31 candidates and rejecting 17. It met during four days in November, 1885, examining 26 candidates and rejecting 12. During its three days' meeting in January, 1886, it had examined 27 candidates and rejected 17. In its three days, April, 1886 meeting, it had examined 34 candidates and rejected 14. In its three days' June meeting, 17 candidates were examined of whom eight secured licentiate certificates, two minor certificates, and seven were rejected. The Board, since its organization had examined 391 applicants, granted 204 licentiate, and 44 minor certificate, and rejected 143 applicants; 1,222 persons had been registered as pharmacists, 83 as minors, and 192 as assistants. 912 pharmacists had been in business when the law went into operation. Of the others 106 were graduates and 204 licentiates. Of the 192 assistants, 4 had died, 9 went out of business, 22 left the State, 19 could not be found, 35 have been granted full certificates, 5 have been registered, 7 have graduated, and 2 have received minor certificates. There are now registered 1089, of whom 947 are pharmacists, 53 minor pharmacists, and 89 assistant pharmacists. Nine ladies were in business when the law went into operation, and 2 received licentiate certificates. The board received many complaints, but often without legal data to go upon. It had prosecuted six cases. The expenses of prosecution had been $173.10, and the receipts $125. One case was still at issue, having been appealed. The board had arranged a system by which proprietors desiring clerks would be furnished with lists prepared by the board.

The Committee on Schools of Pharmacy—Messrs. Dadd, Bechmann and Huber—then reported that they had attended the final examination of the school, and were much pleased with the proficiency displayed, which did credit to the instructors. The herbariums presented by the students evinced much skill and care in preparing and mounting specimens. The theses were of a high order. The Association gold medal had been awarded to Emil Meschek, of New Ulm, Minn. The association had reason to feel proud of the high position the school had attained, and should do everything in its power to aid it. The report, on motion, was adopted.

Mr. H. H. Button, of Milwaukee, chairman of the delegation from the N. W. D. A., was introduced, and after extending greetings from the N. W. D. A., addressed the convention on the subject of the abolishment or reduction of the internal revenue tax. In the beginning he referred to the aims of the associations as being, to all intent and purposes, identical, and then read a letter from President Kline. While in the main concurring with the sentiments of the letter, he was more inclined to favor the abolishment of the wholesale and retail license. He believed the tax on spirits should be abrogated, and that all pharmaceutical associations should work together to bring about this result.

Mr. G P. Engelhard was invited to respond. He believed that the general government should abandon both the tax and the license and leave the matter to be regulated by the States themselves. It was not possible to discriminate, except to a limited extent, between alcohol used as a beverage and that in the arts. At least 50 per cent. of the alcohol

consumed in the United States was used in the arts, and the consumers of this paid most of the tax. The present system of procedure, therefore, set a premium on the abuse of alcohol. It was possible, however, to distinguish between the man who used alcohol in the arts and the man who sold it as a beverage. Neither the interests of morality nor the revenue interests would suffer by the general government leaving this matter in the hands of the States to be dealt with in the manner indicated. As things were now, every sufferer from disease, every manufacturer whose trade consumed alcohol, paid the largest portion of the tax which had been intended to rest on the saloonkeeper. Such a tax was inconsistent with justice as well as the interests of morality.

L. Robinson was of opinion that the retail druggist would not profit by the repeal. He admitted that the law was wrong in principle, and then passed to a discussion of the relations between the wholesaler and the retailer, which were not always of the most pleasant character.

Mr. Dadd, in reply, paid a high compliment to the firm of Green & Button. He believed there were certain wholesale houses that did wrong, but as a rule wholesale houses were honest in their dealings, and willing to protect their patrons. He regarded the tax on spirits as extortion and robbery, and believed it should be abolished.

There was some further discussion by Messrs. Button and Engelhard, after which the meeting adjourned.

SECOND DAY—AFTERNOON SESSION.

After the meeting had been called to order the discussion on the alcohol tax question was resumed. Mr. Hollister said that the federal tax on alcohol was unjust and odious to all respectable pharmacists.

Mr Engelhard offered resolutions favoring the repeal of the alcohol and special license taxes, and providing for the appointment of a special committee to co-operate with similar committees of other organizations in furtherance of modification or repeal.

Secretary Heimstreet reported the case of an Evansville pharmacist (Mr. Wright) who had been refused a liquor permit by the county board without notification of the refusal. He proceeded to sell as before for medicinal uses, when he was arrested and fined $50. The board had said they would issue a permit if the State association would urge it, but had still refused to issue. It was the general opinion of members that the association should take action in the matter.

Mr. Dadd did not see what the State association could do.

Secretary Heimstreet said that Mr. Trowbridge of Viroqua had also been prosecuted for selling without a permit to which he was legally entitled, but which he had been refused. He had fought the matter in the courts. It was finally decided that the permit law was mandatory and not permissive.

Mr. Trowbridge explained that he had made the proper legal application for a permit and had been refused. He applied for, and obtained a mandamus from a La Crosse judge. Viroqua was, like most prohibition towns, very much afflicted with chronic illness needing frequent doses. In such towns honorable pharmacists were at a great disadvantage.

Mr. Wright, in explanation of his case, said that on a certain occasion a man had called upon him at midnight for stimulants for his sick wife. These were sold him. He subsequently called for more, but Mr. Wright's suspicion becoming aroused he was refused, whereupon he threatened prosecution and made good his threat by having Mr. Wright fined $50.

Mr. Robinson said that for sales made in good faith and recorded no one could be legally fined.

Mr. Pulford was of the opinion that Mr. Wright was censurable for not claiming his rights. He could recover his $50 and have the board fined.

Mr. Hollister said the general opinion of the association was in favor of resistance to unjust requirements.

On motion of Mr. Dadd a Committee on Nominations for Vacancy on Board of Pharmacy, consisting of Messrs. J. F. Rice, R. D. Pulford and J. H. Dadd was then appointed.

An informal ballot on time and place of next meeting resulted in favor of Milwaukee, and the second Tuesday in August.

A motion was then offered to expel any member guilty of percentage trades with physicians. No vote was taken.

Professor Power then read a paper on quillaya as a substitute for senega.

Mr. Hollister read a paper by Mr. Bernhardt.

The Committee on Nominations reported: To fill vacancy on State Board of Pharmacy; Messrs. Heimstreet, Prentice and C. A. Emerson, and the following for officers:

President, Frank M. Givens, Fond du Lac
First vice-president, R. D. Pulford, Mineral Point.
Second vice-president, W. M. Edwards, Portage.
Treasurer, W. P. Clarke, Milton.
Permanent secretary, E. B. Heimstreet, Janesville.
Local secretary, A. Conrath, Milwaukee

On motion these officers were elected. Mr. Prentice then resigned the chair to Mr. Givens in an appropriate speech to which Mr. Givens made a fitting response. The following standing committees were then appointed:

Executive Committee: George Howard, La Crosse; E. Sumner, Madison; George Bauman, Oshkosh; F. Robinson, Kenosha; J. A. Dadd, Milwaukee.

Legislative Committee: A. H. Hollister, Madison; H. G. Goddard, Chippewa Falls; C. Widule, Milwaukee.

Committee on Adulterations: Prof. F. B. Power, Madison; Charles Beckman, Fountain City; E. W. Griswold, Racine; Joseph Driver, Darlington; H. C. Schranck, Milwaukee.

Committee on Queries: W. M. Edwards, Portage; W. P. Stearns, Monroe; C. F. Yates, Palmyra.

School of Pharmacy: John A. Dadd, Milwaukee; C. H. Bernhard, Madison; J. C. Huber, Fond du Lac.

Committee on Trade Interests: R. D. Pulford, Mineral Point; F. M. Givens, Fond du Lac; A. du Mey, Horicon.

Committee on Revision U. S. P.: A. Conrath, Milwaukee; C. H. Bernhard, Madison; E. S. Kremers, Milwaukee.

On motion to that effect, Messrs. Heimstreet, Edwards and Stearns were appointed a committee to revise the by-laws.

The association on motion then adjourned. Those present were:

L G Andrews, Mukwonago,
Ferris Beale, Evansville,
F K Barker, Milwaukee,
C H Brooks, St Paul,
T C Ballard, Chicago,
A B Brand St. Paul,
Geo Bauman, Oshkosh,
J L Baker, St. Louis,
G N Breed. Fond du Lac,
E L Babcock, Milwaukee,
J W Burns, Oakfield,
F B Brown, Oconomowoc,
A P Bechaud, Jefferson,
J Brown, Edgerton,
M Bowen, Ripon,
F J Brainerd, Ripon,
J E Brayton, Ripon,
H H Button, Milwaukee,
C R Beechmann, Fond du Lac,
T Burns, Oakfield,
W P Clark, Milton,
A Conrath, Milwaukee,
F C Cook, Janesville,
J S Clark, Janesville,
F B Claggett Oshkosh,
J L Chase, Rochester,
J W Curtis, Madison,
J W Coon, Montello,
D R Curran, Fond du Lac,
Geo Holmes, Philadelphia,
H G Heider, Oshkosh,
I Johnson, Milwaukee,
W F Kent, Fond du Lac,
H Kappe, Waupaca,
O Kuehnsted, Appleton,
J K Lilly, Indiana.
C S Little, Appleton,
P J Love, Centralia,
J A Lightner, Randolph,
W F Lambach, Chicago,
J N Mason, Chicago,
J C Messeroll, Boston,
J Morrison, New Lisbon,
W F Montgomery, Appleton,
W E Mettzer, La Crosse,
A P Noyes, Chicago,
F F Prentice, Janesville,
F B Power, Madison,
R D Pulford, Mineral Point,
A Pfeil, Fond du Lac,
W F Pfluger, Chicago,
C P Pfeifer, Plymouth,
Chas Quinn, Grand Rapids,
F Robinson, Kenosha,
C W Rice, New York,
H Rex, Hustisford,
Henry Rollman, Chilton,
J H Rhodes, Chicago,

J A Ditter, Fond du Lac,
J A Dadd, Milwaukee,
A A Dumey, Horicon,
N M Dodson, Berlin,
W Edwards, Portage,
J A Eppinger, La Crosse,
G P Engelhard, Chicago,
J A Froehlich, Oshkosh,
Ed Fisher, Milwaukee,
C Parlinger, Waterloo,
G A Felker, Marshfield,
H A Fisher, Baraboo,
F M Givens, Fond du Lac,
G B Goodrich, Detroit,
D M Gray, Detroit,
C F W Geisse, Fond du Lac,
E W Griswold, Racin ,
E B Heimstreet, Janesville,
A H Hollister, Madison,
J S Hollenbeck, Chicago,
F Hibbard, Evart, Mich,
T J Hannon, Fort Howard,
J C Huber, Fond du Lac,
J W Hicks, Albany,
J E Reeves, Fond du Lac,
J F Rice, Evansville,
C G Stone, New York,
E E Stockwell, New York,
W P Stearns, Monroe,
T Springer, Indianapolis,
W A Sallade, Fond du Lac,
R Sauerhering, Mayville,
W G Pence, Marston,
F G Schaffer, Chicago,
O Schallern, Ripon,
T H Spence La Crosse,
O Tucker, Philadelphia,
W G T Thackeray, Detroit,
H C Terry, New York,
A J Town-end, Wyocena,
C H Trowbridge, Viroqua,
Y S Thayer, Waupun,
T W Thieman, Sheboygan Falls,
E H Wall, Milwaukee,
O Williams, Janesville,
F Wolfrum, West Bend,
C F Yates, Palmyra.

THE EXHIBIT.

The exhibit was one of the most strikingly attractive that has yet been made at a State Association meeting. The peculiar adaptability of the hall for purposes of exhibition enabled the exhibitors to arrange everything in the most attractive manner, and they fully availed themselves of their opportunity.

Messrs. Foote & Jenks had a very attractive display of their fragrant toilet waters in unique decanter bottles.

The Steuben County Vineyard Association, of Bath, N. Y., had a well arranged display of wines.

Jas. S. Kirk & Co.'s display of soaps was a noticeable one; the goods of the firm are distinguished for their purity, originality and beauty of design, style and finish. Their "Juvenile" soap commended itself to public favor in less time than any other soap ever put upon the market. Their chemically pure glycerin was a noticeable feature of their exhibit.

Eastman Bros., Philadelphia, were represented by a line of perfumeries and soaps whose fanciful style and unique appearance made them peculiarly attractive. Mr. Jewett was in charge.

Humphrey's new upright counter showcase attracted the attention of many pharmacists. Its advantages were explained by Mr. H. C. Terry. There was also a full line of homœopathic specifics.

Eli Lilly & Co., of Indianapolis and Kansas City, made a handsome display of their various pharmaceutical preparations—Succus Alterans (McDade), fluid extracts, the more important alkaloidal drugs being assayed and standardized, elixirs, syrups, wines, compressed lozenges and tablets, sugar and gelatin coated. The gelatin-coated pills were noticeably coated without the aid of needles or points. Their exhibit was in charge of Messrs. Springer and J. K. Lilly.

The Green & Button Company, of Milwaukee, had a full line of roots, barks and pressed herbs.

John Wyeth & Bro., of Philadelphia, made a fine display of their superior preparations, including liquid malt extract, which has won extensive popularity in an incredibly brief time. Mr. Oscar Tucker did the honors.

McKesson & Robbins, of New York, made an attractive exhibit of quinine sulphate, muriate, gelatin-coated pills, rare drugs and chemicals, in charge of Mr. C. G. Stone.

The Chesebrough Manufacturing Company exhibited vaselin and vaselin products.

Frederick Stearns & Co., of Detroit, presented a beautifully arranged display of pharmaceutical products—fluid extracts, elixirs, sugar and gelatin-coated pills, powdered goods, non-secret preparations, perfumes and toilet waters. Their exhibits were in handsome cases, and their card-vial perfume souvenirs were genially bestowed by Mr. D. M. Gray, their representative.

The Wm. S. Merrell Chemical Company made their usual interesting exhibit of hydrastis preparations—fluid hydrastis, colorless solution of hydrastis, solution of bismuth and hydrastis, hydrastine (berberine), (sulphate, muriate, citrate and phosphate, white hydrastin, alkaloid (this firm uses one-half the world's product of golden seal root), their popular green plant and other fluid extracts, solution boro-glyceride, salicylic acid from oil of wintergreen. The exhibit was in charge of Mr. J. A. Eppinger.

Morrisson, Plummer & Co., of Chicago, exhibited a fine line of crude drugs of their own manufacture in sealed jars and of pure powdered drugs, in charge of Mr. T. C. Ballard.

Messrs. Lazell, Dalley & Co. exhibited a display of the powdered extracts which they were the first to introduce to the profession, and also a beautifully arranged collection of their famous perfumes.

Henry Thayer & Co., Cambridgeport, Mass., exhibited a full line of pharmaceutical products—gelatin and sugar coated pills and their novel sugar and licorice coated lozenges, which are now received with much favor.

Messrs. Seabury & Johnson, of New York, had a well arranged display of their medicinal adhesive, corn, bunion, court, kid, mustard, spread, pharmaceutical and surgical plasters, spongio-piline, eucalyptol, iodoform, naphthalin, corrosive sublimate and thymol gauze, bone drainage tubes, and surgical dressings.

The Huber Bros.' display of roots, barks and pressed herbs attracted much attention.

The Irondequoit Wine Company's wine was dispensed with a lavish hand, and won merited commendation from every one.

Yates' vest pocket inhaler and antiseptic inhalant was generally regarded as meeting a long-felt want.

Messrs. Noyes Bros. & Cutler, of St. Paul, displayed an extensive line of druggists' sundries, holiday goods and surgical instruments. Their veterinary instruments were especially noteworthy. The exhibit was in charge of Messrs. C. H. Brooks and A. B. Brand.

Parke, Davis & Co., of Detroit, exhibited a line of crude drugs, which were the subject of interested study by the members. Their general line of manufactures were handsomely and tastefully arranged, and were in charge of Dr. Thackeray.

Messrs. Sanchez & Hoya, of New York, made a fine display of cigars, under charge of Mr. J. S. Clark.

The entertainment by the Fond du Lac druggists was thoroughly appreciated and enjoyed by all.

AMERICAN PHARMACEUTICAL ASSOCIATION.

The thirty-fourth annual meeting will convene in Blackstone Hall (Washington St.), Providence, R. I., on Tuesday, Sept. 7, at 8 o'clock P. M. Credentials of delegates should be forwarded to the Permanent Secretary before Aug. 24. Applications for membership should reach the Chairman of the Committee on Membership, G. W. Kennedy, Pottsville, Pa., Sept. 1, and if mailed later, should be directed to Providence in care of the Local Secretary. Reports and Essays may be sent to the Chairman of the Committee on Papers, Prof. J. U. Lloyd, Cincinnati, who should be informed as soon as possible, of the subjects of all papers intended for the Association. The Council will hold a meeting at the Narragansett Hotel, on the evening of Sept. 6, at 8 o'clock. On Tuesday evening a reception will be given to the visitors at Blackstone Hall. For Wednesday and Thursday afternoons visits by the ladies to points of interest are contemplated.

The Arrangement Committee has planned for Wednesday

evening a theatrical entertainment; for Thursday evening a stereopticon exhibition, readings, recitations and music; and for Friday an excursion down Narragansett Bay, clam bake at Crescent Park, ride at Newport on Ten-Mile Ocean Drive and visit to U. S. Life Saving Station. Tickets $3.50 each. To enable the committee to perfect the arrangements, it is desirable that tickets be procured prior to Sept. 1, from the Chairman, W. B. Blanding, Providence.

Excursion Tickets to Narragansett Pier, the White Mountains or other Eastern summer resorts, the route passing through Providence, can be obtained from most places; and from Baltimore and Philadelphia sea voyages may be made by steamers running regularly to Providence or Boston. For those going from New York, Prof. Bedford (P. O. Box 1807) is making arrangements, and should be addressed at once; he will also furnish orders for all-rail tickets good for returning until Sept. 18. The Boston & Providence R. R. will until Sept. 11, return free to Boston those having paid full fare going.

Hotels: Narragansett Hotel (Headquarters), $3 to $4 per day. Aldrich House $2 and $2.50 per day. City Hotel $1 and $1.25 per day.

JOHN M. MAISCH,
Permanent Secretary.

The Western roads to Chicago have granted no reduction in rates, but all lines from Chicago east will probably make a rate of one and one-third for the round trip. Definite information may in due season be obtained by addressing the WESTERN DRUGGIST.

N. R. D. A.

The annual meeting and exhibition will be held at Providence, Rhode Island, Monday, September 6 to 10, inclusive (5 days) the same days and place of meeting as the American Pharmaceutical Association. Special efforts have been made to make the exhibition peculiarly successful. The hall selected is well adapted for a musical entertainment, which will be given in conjunction with the exhibition. This will include drugs, chemical and pharmaceutical preparations, apparatus and literature, and druggists' sundries; but not wines or liquors. The exhibitors will pay pro rata for expenses connected with the exhibition, which will probably not exceed fifty cents per square foot. The programme of the meeting is as follows:

First Session, Sept. 6, 10:30 A. M.—Reading Minutes President's Address, Reports of Secretary and Treasurer of Executive Committee, Committee on Legislation, on Reorganization, on Washington Circular, of Delegates to State Associations, from State Trade Committee, Reception of Delegates from other Associations.

Second Session, 2 P. M.—Discussion of Reorganization, Discussion of methods necessary to secure repeal of U. S. Tax as retail liquor dealers.

Third Session, Sept. 7, 9 A. M.—Election of officers and committees. Miscellaneous business.

The Executive Committee will meet at 10 A. M., Sept. 6. Its headquarters will be Narragansett House. Blockston Hall, in which the meetings are to be held, is the finest in the State.

SAN FRANCISCO BRANCH N. R. D. A.

The Executive Committee reported at the July meeting that but five druggists of San Francisco were not members of the Association. There was but little cutting on proprietary medicines. The local liquor law had been so amended by the efforts of the Committee that less than a quart of liquor could be sold for medicinal purposes. Messrs. C. Roethe, W. W. Kilbourn, J. Barbat, C. W. Horner and C. L. Steylaars had died. The following officers had been elected: President G. E. Bacon, 1st Vice President, Wm. M. Searby; 2d Vice-President, M. Tschirner; Treasurer, J. H. Dawson; Secretary, C. A. Bayly; Executive Committee, F. C. Keil, R. E. White, R. W. Coffin, Val. Schmidt, J. J. McDonnell and the officers.

KANSAS BOARD OF PHARMACY.

At the meeting of the Kansas Board, July 13, eighty-nine applicants were examined, of whom only twenty-one passed. The result was as unsatisfactory to the board as to those who failed. Dr. Eager and Hon. C. J. Butin, both of whom had been appointed by the governor, were present, but owing to the absence of Mr. G. B. Crandall, no reorganization of the board was made. Only one-third of the druggists throughout the State have sent notice of renewal of their certificates as required by law. The following passed: E. C. Wickersham, Harley Funk, J. M. Hutchinson, E. F. Tyler, W. F. Lake, E. Scheidt, Ed. Mollott, J. B. Hatfield, F. B. Bourgwald, O. M. Wight, W. I. Evins, W. T. Davis, Otto Auer, W. Parr, O. E. Holloway, J. M. Gillespie, P. Henninger, G. R. Hoffman, T. Haussler, C. F. Payne, F. O. Waynant. The board adjourned to meet at Topeka the second Tuesday of October.

J. P. TAYLOR, Sec'y.

COMMENCEMENT AT THE CHICAGO COLLEGE OF PHARMACY.

On Wednesday evening, July 28, closed the second summer course of the college with the graduation of thirty-two young men. So successful has it been that the summer course may hereafter be regarded as one of the prominent features of the college. The course of study being precisely the same as that of the winter course, and the advantages identical in every particular, there seems no reason why it should not ere long be as well attended as the latter.

The final examinations began on Monday, July 19, and closed on the Saturday following. They consisted of written examinations of both senior and junior classes in the lecture courses and in laboratory work, supplemented by an oral examination including the identification of materia medica specimens and pharmaceutical and chemical preparations. Thirty-two members of the senior and about fifty members of the junior class passed successfully the ordeal.

The commencement exercises were held in the fine lecture hall of the college, and despite the heat of the day the hall was well filled. The exercises consisted of an introductory address by the Vice-President, Judson S. Jacobus, an address on behalf of the faculty by Prof. E. S. Bastin; a valedictory address on behalf of the class by Mr. John F. Warnick; the conferring of degrees by the Vice-President; the faculty report announcing the names of those who had taken the honors in their respective classes by Prof. H. D. Garrison, and concluding remarks by the vice-president. The exercises were interspersed with music and the members of the graduating class were recipients of numerous elegant bouquets from their fair friends in the audience. At the close of the exercises the audience were invited to visit the library, museum and laboratories of the college.

The following is a list of the graduating class:

Fred H. Busse.	Wm. B. McVicker.
Darwin Doolittle.	John C. Nitzsche.
Henry T. Decker.	Aug. D. Pitts.
Lewis Ellsworth.	Julius A. Renner.
Charles A. Foster.	T. Corwin Rummel.
Emil Fischel.	Fred A. Rometch.
Edwin Franken.	Charles A. Seely.
Albert Goetz.	Charles B. Springer.
P. Bertram Hanson.	S. Grant Stannard.
James E. Harrington.	Ernest J. Thiele.
George Jay.	A. Eugene Thompson.
Asher D. Keim.	Geo. L. Van Gorder.
Louis P. Kotz.	Richard Voge.
King G. Kellogg.	Fred B. Wieneke.
Edward B. Kilner.	John F. Warnick.
Herman Mai.	Emil M. Warhanik.

Mr. Edwin Franken attained the highest average in the senior class, and Mr. F. P. Williams captured the honors of the junior class, and was awarded as a prize free tuition for the senior course.

Notes and News.

Mr. Ernest Hirt, a prominent South Carolina chemist, is dead.

There is a drug clerk Knight of Labor lodge in Philadelphia.

Enterolobium Timbowa is a new rival to quillaya from South Brazil.

Evan Davies, a Sheffield, England, pharmacist, committed suicide July 18, 1886.

A nostrum vender in California took his own remedy to quiet a patient; both are dead.

In a store in Milan, Ohio, groceries, meat and Paris green are sold in the same small room.

M. Moissan claimsto have produced free fluorine in gaseous form. M. Berthollet supports his claim.

Mr. Michael Rogerson, a prominent pharmacist of Bradford, England, died July 17, at the age of 74.

A rich vein of Uranium has been found in Mauch Chunk, Pa. Uranium is now worth $1 per lb.

EXAMINER—"What is a mulberry calcolus"? Student—"I came here to be examined in Anatomy not Botany."

The Supreme Court of Iowa holds that the prohibition law does not make the liquor-buyer a particeps criminis.

Cholesterin has been found in chalmoogra oil, in Ethythroxylon hypericifolium, jequirity, bonduc and carrots.

Messrs. McKesson and Robbins have placed their new branch office, 37 Mark Lane, London, in charge of W. J. Evans.

Dr. Geo. L. Peabody was elected Professor of Materia Medica in the New York College of Physicians and Surgeons.

A correspondent states that the Baltimore drugstores are closed on Sunday, and suggests that Chicago should do likewise.

"Man, ye micht gie me a pennorth of something, I dunna ken the name o't, I dinna ken wha' it's for; but ye'll ken yourseef."

"Five cents worthe lendnionu, 5 cents worthe calomoli, 10 cents Moirphynn," is said to be a common prescription in Maples, Ill.

Mr. H. Lloyd Snope has been appointed Lecturer on Chemistry and Chemical Technology in the Manchester (England) Technical School.

It takes a day for a laborer to pick two' ounces of cochineal bugs. These shrink two-thirds in drying. cochineal retails at sixty cents per pound.

It is dangerous for a wife to go through a husband's pockets. The wife of a Florida pharmacist found a live rattlesnake in his pockets recently.

A teething syrup prepared by dissolving 1 part of Cocaine in 100 parts of syrup, is recommended as an application to children's gums during dentition.

Professor Schlagdenhauffen has been elected director of the Nancy School of Pharmacy in place of Professor Jacquemin, whose term has expired.

Gallo, a Paris crank, attempted to regenerate mankind by bombarding the Bourse speculators with prussic acid. During his trial Prof. Riche, of the College of Pharmacy testified that Gallo prepared his prussic acid from potassium cyanide and sulphuric acid, a bad process, whereupon Gallo retorted he knew enough chemistry to be aware of that, but was obliged to proceed economically.

"One pint of whiskey and five cents worth of camphor (done up separately) to make camphor for the old woman," is a popular prescription in prohibition States.

The Tennessee pharmacists are threatened with suits for special State and county liquor taxes from 1882 inclusive, amounting to $1,960,000 in toto, or about $1,400 each.

LADY—"This new carpet is going to be ruined, Hannah." Hannah—"That is true, madam, I think if you were to put a druggist under the table it would be as nice as anything."

MR. ARTHUR DAWSON, a gentleman widely and favorably known to the drug trade of the West, has been admitted to the firm of Robert Stevenson & Co., making a valuable addition to its *personnel*.

An arsenic eater came under the observation of Dr. Crother (Quarterly Journal of Inebriety) who used twenty grains of arsenic (powdered acid) daily? The most marked effect of the habit was a hesitating gait.

The Supreme Court of Illinois holds that when a bank takes an order for collection, and sends such order to the debtor by mail directly, this constitutes such negligence as renders it liable for loss resulting thereby.

A Minnesota physician, after tasting a powder, offered by a pharmacist, said, "That is salt." "Why no," said the pharmacist, "that is sodium chloride." "Is that so?" was the physician's reply. "I was sure it was salt."

A Physician ordered a French woman to give her husband one-franc's weight of a certain powder. The woman having no silver coin, weighed out the quantity by the money equivalent in copper, which killed her husband.

Three different microbes, according to Pasteur and others produce hydrophobia. There appears to be one of these in ordinary soft soap, for with this Spitzka has produced hydrophobia in dogs by using it as Pasteur does his virus.

A Cleveland pharmacist is reported to have sold arsenic for milk sugar, resulting in the death of a woman and three children. The story appears to be somewhat apocryphal, as the woman is said to have purchased the milk sugar.

According to a foreign journal there has been established at Buenos Ayres, South America, a factory for the preparation of Meat Peptone for export to Europe, under the supervision of Dr. Kochs, a professor at the University of Bonn, Germany.

Subscriber.—No.—The explanation of "Eccles," attached to numerous contributions to pharmacal literature, is not an abbreviation for the "Ecclesiastics" of Scripture, but the name of a Brooklyn pharmacist who appears to tend in a different direction.

Philo Carpenter, the first practitioner of pharmacy in Chicago, died Aug. 6, 1886. He was born in Savoy, Mass., Feb. 27, 1805, and when twenty-three years of age became a clerk in the store of Dr. Robbins, Troy, N. Y., under whom he studied medicine. In July, 1832, he began the practice of pharmacy in Chicago in a green-log hut on Lake street, near the river. In 1842 he abandoned pharmacy, in which he had acquired a competence and devoted

himself to real estate. He was prominent in philanthropic movements like temperance and abolition, but took no special interest in pharmaceutical reform after his abandonment of the profession in 1842. He died worth several million dollars.

An Ohio pharmacist is of the opinion that, in these days of prohibition, pharmacists need instruction in the use of alcoholic beverages. Some of the Illinois pharmacists were evidently of the same opinion, judging from their experiments at the Rockford meeting.

A German recently bought in an Ohio town a bottle of Walker's Vinegar Bitters, and took it according to directions, "a wine glassful." As his idea of a wine glassful was that of Boden—half a pint, medical assistance was soon needed to remove the effects of the "Bitters."

From a foreign exchange we learn that a Chilian pharmacist, at present attending the lectures at the Paris School of Pharmacy, has charge of the publication of a National Pharmacopœia for Chili. The work is to be printed in Leipsic; the greater portion of the book having been already compiled, it will go to press very shortly.

Whole cloves are said to be more effectual as a moth destroyer, than tobacco, camphor, or cedar shavings. Camphor water is recommended by Dr. George Abbott for the preparation of alkaloidal solutions, particularly collyria. The Doctor has found that solution of Atropine containing one grain of camphor to the ounce has kept for over a year.

The discovery of the new sweet body saccharin, at first only of scientific interest, bids fair to become important to manufacturers. Glucose, which could not successfully compete with cane sugar, owing to its inferior sweetening power, may now, it is thought, by being mixed with a small quantity of saccharin be converted into a formidable rival possessing all the physical properties of cane sugar, and produced at much less cost.

A very useful suggestion to all who are liable to be in danger from fire, has been made by an amateur fireman. Place a handkerchief under the pillow before going to bed, and, if alarmed by the cry of fire, dip the handkerchief in water and tie it over mouth and nostrils. Whoever does this will be able to breathe freely even in dense smoke. There can be no doubt that many persons who lose their lives by fire are first made insensible by the smoke.

A. Mayer has just examined three samples of Dutch chicory-root. They yield 72 to 77 per cent. of water, 1 of albuminoids, 0.2 of fat, 12 to 17 of inulin and other non-nitrogenous matters insoluble in alcohol, about 1.5 of crude fibre, 5 to 6 of sugar, 1 to 2 of ash, and 0.05 to 0.15 of bitter extract. The author observes that the bitter compound extracted by chloroform are soluble in water and alcohol, but insoluble in ether, but they require further investigation.

In the preparation of soluble bougies, Laber manipulates as follows: Two parts of gelatin is dissolved in water, 8 parts, and glycerin, 1 part, and the solution heated in a water both, until a drop of it, placed upon a glass or marble slab, has the proper consistence after cooling. The medication, tannin, iodoform, etc., dissolved in, or triturated with a little water, is then added, and the whole stirred and heated until the water has evaporated, when the mass is sucked up in glass tubes of the requisite diameter. The glass tube is closed up with the finger, and then laid upon a cool slab. The glass tube having been previously cut with a file near the middle, and united again by pasting a strip of paper around the joint, the paper is soaked off, the two halves of the tube are sufficiently pulled apart so as to withdraw a small portion of the bougie, and by means of the spritz a little water is dropped between the glass and the mass, when the latter may be easily withdrawn from one half of the tube, and, after a similar manipulation, also from the other half. In this manner bougies 0.5 meter long may be easily obtained, and afterward cut to suit.

The glories and vicissitudes of the national game of base-ball have been participated in by some of the pharmacists and physicians of Chicago. Several games have been played so far, in which the wielders of the pestle were equally proficent in wielding the bat, having come off victorious nearly every time. But while the druggists gained the laurels and most of the innings, the doctors secured a monopoly of the profits in sewing up the cut heads and maimed limbs.

According to an exchange the oil is now extracted from hops in order to insure the better preservation of their strobiles. The substance *valerol*, which is contained in hops is gradually converted into valerianic acid, and ruins its aroma. But, by removing the essential oil without injuring the hops brewers add a solution of oil to the beer after the brewing process is completed. There are two varieties of this oil prepared by Schimmel & Co., one being made from the hops and the other from lupulin.

A new danger is troubling pharmaceutical chemistry. The workers in the field of botany and zoology have always yielded to the temptations of vanity by naming discoveries after themselves. Chemistry, and especially pharmacy, have in a great measure escaped so far this perversion of nomenclature, but of late we find such names as Pelletieree, Wrightinin, etc., applied to alkaloids, and quite recently "Salol" to a compound obtained from *sal*icylic acid and phe-*ol* by its ingenious discoverer "Sahli."

Messrs. J. D. Sourwine, T. S. Motter and W. L. Johnston, the National Formulary Committee of Indiana Pharmaceutical Association, request the pharmacists of Indiana to send them such non-officinal formulæ as they have found valuable. The pharmacists residing south of the O. & M. R. R. are requested to communicate with W. L. Johnston, Evansville; those living north of the O. & M. R. R. and east of a line described by the J., M. & I. to Indianapolis, thence via I., P. & C. R. R. to Peru and South Bend, with Dr. T. S. Motter, Crawfordsville; those west of this line with J. D. Sourwine, Brazil.

Mr. Joseph Roberts, of Baltimore, President of the American Pharmaceutical Association, takes an active interest in his State Association. At the last annual meeting he contributed several papers, in one of which he expresses himself as follows: "Besides the satisfaction of dispensing his own home made products, the pharmacist will have the further satisfaction of knowing that whilst better serving his patrons, from a business point of view he is adding largely to his profits. So I think we may safely conclude that it is both good pharmacy and good policy for every pharmacist to make his own galenical preparations."

The "post card competition" of the Chemist and Druggist develops specimens of patent-medicine poetry of which our fastidious contemporary has reason to be proud. What could be more musical than the following:

"My powders they are nice, won't you try them, Mrs. Price?
They will cure all your children of their teethings. Oh, how nice!"
"Ah! will they, Wilson? Well, I'll try them and see how nice
They do for my children; then I'll be ready to give you your price."
J. W.

Only the clime of Milton and of Burns could produce page after page of this lovely melody, and the C. and D. is doing a grand work in snatching the gems from their hiding-places.

THE WESTERN DRUGGIST.

VOL. VIII. No. 9. SEPTEMBER, 1886. { Subscription Price, $1.00 per annum. G. P. ENGELHARD & CO., Chicago.

QUILLAIA BARK AS A SUBSTITUTE FOR SENEGA ROOT.

BY FREDERICK B. POWER.

At a meeting of the Society of German Naturalists, held at Strassburg about a year since, Dr. Kobert directed attention to the valuable medicinal properties of quillaia bark, and proposed it as a substitute for senega in affections for which the latter is indicated[1]. Its advantages over the latter are stated to consist in the fact that the glucoside to which it owes its activity is present in about five times the amount of that contained in senega, and by containing a considerable amount of sugar its decoction possesses a sweet taste; while another and not unimportant consideration is its relative cheapness. The experiments of Dr. Kobert are stated, moreover, to have proven that patients bear quillaia better than senega; that it rarely produces vomiting or diarrhœa, and is readily taken by children, while its expectorant action is beyond all question[2].

Although quillaia bark was made officinal in the last revision of the U. S. Pharmacopœia, no preparations of it were adopted, and its virtues appear to have remained unknown to the medical practitioners of our country. Indeed, in the last revision of the U. S. Dispensatory, p. 1212, we find the statement that "the bark has no application in practical medicine. Its infusion is much used in the arts as a detergent for washing silks, cloths, etc., but we know of no sufficient reason for its introduction into the Pharmacopœia." It has found no place in the British Pharmacopœia, nor in the Pharmacopœia Germanica *editio altera;* and although officinal in the new French Codex, under the title of *Bois de Panama* (Panama-wood), the tincture prepared therefrom is employed simply as an emulsifying agent for the preparation of emulsions of various balsams and oils, such as tolu, copaiba, oil of cade, etc. It may also be incidentally remarked that a powder sold in this country under the name of "emulsine," for the preparation of oil emulsions, appears to consist essentially of saponin, or the saponaceous principle of quillaia bark.

The object of this paper is, therefore, to afford a somewhat more extended notice of the undoubted merits of quillaia bark as a medicinal agent, with the hope of eliciting further experiments regarding its therapeutic action, and likewise to present a few practical observations relating to pharmaceutical preparations therefrom which are best adapted for convenient employment.

In reviewing the chemical literature of the subject considerable discrepancy will be found in connection with the amount of each of the active constituents of the drug, but which is doubtless due not only to the method of separation, but also to the relative degree of purity in which the substance was obtained. Thus the so-called *senegin* of Gehlen (1804), or the *polygalic acid* of Quevenne (1836) and Procter (1859), which is recognized by Flückiger[3] as amorphous saponin, is stated by Christophsohn[4] to be contained in senega to the amount of about 2½ per cent., while other investigators have obtained as much as 5 per cent.; but the amount of this principle is probably not constant in the same drug. On the other hand, Christophsohn obtained from quillaia 8.82 per cent. of saponin, and Flückiger, *loc. cit.*, p. 135, gives the amount of the latter as about 2 per cent. The further investigation of this subject, with the employment, as nearly as possible, of the same methods of isolation and purification, would seem quite desirable. In this connection it is also important to consider that, as Kobert has shown[5], pure saponin, $C_{18}H_{30}O_{10}$, is perfectly destitute of physiological action, and that commercial saponin is mostly a mixture in varying proportions of four organic and some inorganic substances, namely: A substance for which the term *saponin* is retained, a carbohydrate *lactosin* $C_{36}H_{62}O_{31}+H_2O$, discovered but a short time since by A. Meyer in the roots of various plants of the family of Caryophyllaceæ, together with two extremely poisonous substances, *quillaic acid* and *sapotoxin*, upon which the harsh taste and frothing property of commercial saponin depend. It would thus seem that the activity of quillaia, and probably also of senega, depends chiefly upon the two last-named proximate principles, and the estimation of these, rather than of the impure saponin, would probably indicate more exactly the therapeutic activity of the respective drug.

From a pharmaceutical standpoint the absence of pectin bodies in quillaia renders the ordinary liquid preparations of this drug permanent and elegant, and the use of ammonia, as was recommended by Kennedy[7], in the preparation of the fluid extract and syrup of senega, and adopted by our Pharmacopœia, becomes entirely unnecessary. I have prepared a fluid extract of quillaia by the following process, which affords as handsome a preparation as could be desired, and appears to thoroughly represent the activity of the crude drug: One hundred grams of quillaia in No. 40 powder were moistened with 40 grams of dilute alcohol, packed firmly in a cylindrical percolator, and enough dilute alcohol subsequently added to saturate the powder and leave a stratum above it. It was then allowed to macerate for forty-eight hours, after which period the percolation was allowed to proceed, with the use of dilute alcohol

1. Pharm. Rundschau, 1885, p. 236.
2. *Ibid.*, 1886, p. 42; also Ther. Gazette, 1885, p. 606, from Centralblatt für klin. Med.
3. Grundriss der Pharmakognosie, p. 95.
4. Dissertation, Dorpat.
5. Pharm. Rundschau, 1885, p. 258.
6. Ber. d. Deutsch. Chem. Ges., No. 17, p. 685.
7. Proc. Amer. Pharm. Assoc., 1879, p. 721.

as the menstruum. The first ninety cubic centimeters of the percolate were reserved, and the remainder, which was an amount sufficient to completely exhaust the drug, evaporated at a gentle heat to the measure of ten cubic centimeters, and this added to the reserved portion. The finished fluid extract is of a deep reddish brown color, and by simple admixture with syrup, in proportions corresponding to those of the officinal syrup of senega, namely, 4 parts of fluid extract and syrup to make 25 parts, a perfectly transparent and handsome syrup of quillaia is obtained. The preparation with which experiments were instituted in Germany, as reported in the "Aerztl. Int. Blatt," 1885, No. 48, was a decoction made from 5 parts of the bark for adults, and 3 parts for children, with 180 parts of water and the addition of 10 parts of syrup, the dose being a tablespoonful every hour. The use of quillaia is stated to be contra-indicated in inflammation of the intestines or stomach or in ulcerated states of the mucous membranes.

Although a drug so long employed and so highly esteemed as senega will doubtless still continue to retain its place in our materia medica, yet so admirable a substitute as quillaia would nevertheless appear to be well worthy of the attention of medical practitioners, as also of the Committee of Revision of the Pharmacopœia, with a view to the adoption of suitable preparations of the same.

It may finally be incidentally stated that the cultivation of the quillaia has been undertaken in British India during the past year, and the plant having resisted well the frosts of winter, has already attained a height of over six feet.[8]

UNTOWARD EFFECTS OF PARALDEHYDE.

BY JAS. G. KIERNAN, M. D., CHICAGO.

In 1884, acting on the suggestion of Dr. Keraval, I tried paraldehyde as a means of securing slumber in excited cases. It was generally stated that paraldehyde had all the good qualities of chloral hydrate without its bad effects. At first sight such a statement was improbable because the evil and good effects of chloral hydrate arise from its physiological action, and any remedy having the good effects of chloral hydrate must have the bad effects in a minor degree.

I found after very careful experimentation that paraldehyde produced irritation of nearly every mucous membrane in the body as a secondary consequence of its soporific effect: That it markedly impared digestion: That scarlatina like skin eruptions, attended by itching and scaling off of the skin frequently followed its use. Irritation of the eyes was as frequent as after the use of chloral hydrate. The same intractable nail ulcers followed its brief use as so frequently follow the long-continued use of chloral hydrate. Paraldehyde in my hands has shown all of the untoward results of chloral hydrate, while the slumber produced by it has been neither so profound nor so refreshing as that produced by the latter. None of these results were due to methods of administration or impurities of the drug. In my opinion it hardly comes up to the requirements of a hypnotic.

8. See Pharm. Zeitung, 1836, No. 44, p. 320.

TESTS FOR THE PURITY OF MILK.

What process affords the simplest and most accurate tests for determining the quality of milk, was the subject of a paper read before the Massachusetts Pharmaceutical Association by W. W. Bartlett, who called attention to the various procedures used by adulterators of milk and discussed various methods of discovering the same, giving preference to Wauklyn's method. Milk should have a specific gravity at 60° F. of 1,029 to 1,033; if fresh should have a slight acid reaction, alkaline reaction in alleged fresh milk indicates adulterants; excessive acid reaction indicates lactic fermentation. The cream should be determined by a 100 C. c. tube graduated into cubic centimeters and the volume read off at the end of twenty-four hours. The total solids are then determined as follows: If a porcelain capsule be used to evaporate the milk, a small amount of pure white sand should be added to the latter; after having been washed, heated red, cooled and then weighed with the capsule (the sand breaks the film formed on the drying milk.) It is best, however, to use a perfectly flat bottomed platina capsule, 2½ inches in diameter and ½ inch deep. The capsule, being perfectly balanced on the scales, five grams of milk are carefully weighed into it. The dish is then placed on a water-bath heated till apparently dry (takes about one to one and one-half hours.) It is then placed in a hot air oven and exposed to a heat of 220° F. for half an hour, by which time its weight will be constant. The difference between the weight of the empty capsule and its present weight will be the weight of the solid contents of the milk. The capsule and contents are next placed upon a water bath and boiled with three successive portions of petroleum benzine, decanting off each portion carefully after boiling for a minute. The capsule is then carefully washed off with benzine dried in the oven, cooled in a dessicator and quickly weighed; as the fat is removed by this process, this difference between this last weight and the former is the weight of the fat. The other solids ignited at a red heat yield the percentage of inorganic salts. The amount of water present is easily determined. Thirteen per cent. of water found in each sample in excess of 87 per cent. allowed by law, represents one per cent. of added water. The amount of milk sugar may be determined by a standard Fehling's solution or the polariscope; the last yields the best results.

AN INDELIBLE INK may be made as follows: To an aqueous solution of chloride of copper add a solution of hydrate of potassium, collect the precipitate, wash it and dissolve in a small quantity of ammonia, to which add 6 per cent. of dextrin —Rundschau.

ILLUMINATED PAPER that will retain its phosphorescent light for some months and remain water-tight, may be made from the following material, according to the Bull. de Pharm.: 100 parts of water, 40 of paperware, 10 of powered phosphorus and 1 each of gelatin and bichromate of potassium. To the bichromate is due the imperviousness of the paper.

DOES IT PAY THE PHARMACIST TO MAKE GELATIN-COATED PILLS?*

BY PROF. E. L. PATCH, BOSTON.

I was requested by your worthy Chairman of "Committee on Queries" to say *something* in answer to this query, simply to *patch* the subject a little, that the tonic Pil. 2 and the moving Pil. C. C. might not be omitted from your bill of fare.

The query is specific, but is governed by the same principles as the general query—"Does it pay the retail pharmacist to manufacture anything?" We might here ask the nature of the compensation demanded: Whether self-respect, independence, practical experience and detailed knowledge may form a partial payment, or decimal currency only be considered as remuneration, but conclude that the "almighty dollar" is the standard of utility to be alone admitted.

On this basis we should consider, 1st, The value of labor employed, and its capacity of production. 2d, Its opportunity for more profitable employment. 3d, The related influence of the work. 4th, The market for the product.

It makes a difference whether the labor costs $2.00 or $15.00 per week if it is employed wholly at this work, but if odd intervals of time which the assistant would employ listlessly and fruitlessly are utilized in pill making and coating, it may be saving that which would otherwise be a total loss.

Again, men receiving the same compensation vary much in the quality and quantity of labor they perform, because of closer application and greater natural manipulative skill on the part of some.

In order to make the matter practical and intelligent, I have corresponded with a few retail pharmacists who have experience in gelatin coating pills, and, adding to their testimony the experience had in our own establishment, have constructed the following table:

IN A DAY OF TEN HOURS' WORK.

Operator No.	1	makes	6,000	Pil.	Quininæ	2 grs.	or coats	4,000
" "	2	"	4,000	"	"	"	"	8,000
" "	3	"	3,000	"	"	"	"	8,000
" "	4	"	2,500	"	"	"	"	5,000
" "	5	"	1,900	"	"	"	"	4,000
" "	6	"	10,000	"	"	"	"	10,000
" "	7	"	2,000	"	"	"	"	3,000
" "	8	"	5,000	"	"	"	"	5,000
Total No. of operators,			8)34,400	Total No of operators				8)47,000
Average production....			4,300	Average production.				5,875

IN A DAY OF TEN HOURS' WORK.

Operator No.	1	makes	6,000	Com.	Cath.	Pills	or coats	4,000
" "	2	"	8,000	"	"	"	"	8,000
" "	3	"	4,000	"	"	"	"	7,000
" "	4	"	3,000	"	"	"	"	4,000
" "	5	"	2,400	"	"	"	"	3,000
" "	6	"	10,000	"	"	"	"	10,000
" "	7	"	2,000	"	"	"	"	3,000
" "	8	"	5,000	"	"	"	"	5,000
Total No. of operators,			8)40,400	Total No. of operators				8)44,000
Average production, ...			5,050	Average production,				5,500

Some have but one pill machine, and simply cut their pills on the machine, shape them by hand, and finish with boxwood finisher. Others have machines to suit all sizes and roll, cut and finish by machine.

Some machines cut 12, others 24; others 32, and still others 48 pills at once.

Average production, making C. C. Pills in 10 hours	5,050
" " coating " " " 10 "	5,500
Total average production, making and coating C. C. Pills in 20 hours	10,550
Total average production, making and coating C. C. Pills in 10 hours	5,275
Average production, making Quinine Pills in 10 hours	4,300
Average production, coating Quinine Pills in 10 hours	5,875
Total average production, making and coating Quinine Pills in 20 hours	10,175
Total average production, making and coating Quinine Pills in 10 hours	5,087
5,000 Pil. Quininæ two grains each contain	10,000 grains.
At 70 cents per oz. Quinine costs	$16,00
" 20 " per hour, labor "	2 00
Gelatin, etc	1 00
	5)19.00
Cost, per thousand	$ 3.80

A difference of 5 cents an ounce in cost of Quinine makes a difference of 23 cents per 1,000 in cost of pills.

The actual cost of Quinine to-day being 62 cents per ounce in bulk, we should discount 36 cents for comparison with manufacturers' prices, making cost $3.44 per thousand.

On the basis of poorest production, or 2,000 pills in ten hours,

Quinine costs	$ 6.40
Labor "	2.00
Gelatin "	.40
	2)8 80
Cost per thousand	$ 4 40

The material for 5,000 compound cathartic pills costs about $7.50 (depending on quality). Labor $2.00, Gelatin $1.00. Cost per thousand $2.10. On the basis of 2,000 being a day's work the cost per thousand is $2.70.

If labor is not charged for, the quinine pills at 70 cents per ounce for quinine, cost $3.40 per thousand, and the compound cathartics $1.70 per thousand.

Manufacturers quote the quinine pills at $4.75 to $6.45 per thousand, and the compound cathartics at $2.75 to $3.07 per thousand. (Some quote C. C. pills $1.25 per thousand in bulk).

We have made no charge for interest and depreciation of value of apparatus, as its relation to work done is uncertain.

Operator No. 1 uses a large number of needle bars without drying disk. No. 2 uses one drying disk with one set of 8 needles bars, of 18 needles each, or a total of 144 needles. No. 3, two drying disks and three sets of needles, or a total of 432.
No. 4 do. No. 5 do.
No. 6, one disk and three sets of needles.
No. 7, one disk and one set of needles.
No. 8, one disk and three sets of needles.

This demonstrates how much depends upon dex-

*Paper read at meeting of the Massachusetts Pharmaceutical Association, Boston, June 2, 1886.

terity, and how unequal the amount of work per formed by different operators using the same apparatus.

Allow me to quote from correspondence:

"DEAR SIR:—I have been making and coating a variety of pills, much to my own satisfaction, and to the satisfaction of our physicians, as many prefer a fresh made pill, freshly coated. My boys find no trouble in making and coating 500 an hour. I have one man who can make 1,000 Pil. Quininæ an hour.

"With labor at 20 cents an hour, and charging for gelatin etc., etc., my 2 grain quinine pills cannot cost over $4.00 per thousand, and my Blaud's pills $2.50 per thousand."

"It pays me well to make and gelatin-coat pills. The young men use odd time for this work. They can make about 2,000 a day without interfering with other work."

"I have been figuring the cost of my gelatin-pill making, and find it pays me to keep it up. The boys made about 2,000 quinine and capsicum pills yesterday."

These figures and statements have a certain value, but a careful record of a year's work would be more satisfactory, for the rapidity of coating is controlled by many factors, as dryness of air in operating room, dryness of pills coated, character of the mass, and influence upon it of heat and moisture.

A party making a business of wholesaling their pills, figures that a young man and two boys can make and coat 25,000 pills a day. The young man makes and divides the mass, the boys roll, cut and finish them, using machines cutting three pipes at once into 32 pills each, after which the young man coats them. Using a machine with two disks carrying 40 bars of 50 needles each, the coating can be readily accomplished.

In many stores there are intervals of time that can be utilized for this work better than for some other forms of manufacturing, for the pill mortar, machine and coater may be in close proximity to the sale or prescription counter, and even five minutes of time employed, in this way many thousands of pills are made and coated annually in our store.

May we not conclude then, that it pays the pharmacist to make and coat his own pills if he has a fair demand for his product, and sufficient love for painstaking employment to make him dexterous?

He may make it profitable also by the increased interest of his assistants in their vocation, and their rivalry in doing good work; by added reputation as a skillful dispenser securing additional patronage; by judiciously creating a demand for special forms.

The attempt by the Chinese government, at Hong Kong to cultivate cinnamomum cassia is meeting with a serious drawback. The natives who use the leaves in medicine, persistently break off the leaves and branches, thus leaving the plants in an almost leafless condition.

Naphthalin-leaves are prepared (Pharm. Zeitung) by applying a melted mixture of 25 parts of carbolic acid, 25 parts of ceresin and 50 of naphthalin to the surface of unsized paper placed upon a warm metallic surface.

THE FEBRIFUGE PRINCIPLE OF BONDUC GRAINS.*

BY MESSRS. HECKELAND AND SCHLAGDENHAUFFEN.

Bonduc grains are employed in India and the French colonies as febrifuges. They are furnished by two leguminous plants, Guilandila Bonducella and Cæsalpinia Bonduc.

The oily cotyledons of these grains contain a bitter resinoid principle. The physical characters of this principle do not agree with those of resins, and it hence has been designated the "bitter principle." To extract this bitter principle the cotyledons are treated with alcohol; the resulting alcoholic extract is treated with chloroform; the chloroform solution is then agitated with water. It forms two layers; the lower layer, which is the chloroform layer, contains the bitter principle. The liquid forming this layer is evaporated, and, after two or three successive washings with petroleum ether, a compound is obtained in the shape of a white powder.

This powder is bitter, but not acrid. It is soluble in alcohol, acetone, chloroform, acetic acid, essential and fixed oils; slightly soluble in ether and carbon sulphide, and almost insoluble in petroleum ether and water. Muriatic acid gives it a darkish coloration which becomes rosy as the powder dissolves. With nitric acid it disintegrates into red, resinous drops. It dissolves by aid of sulphuric acid; becoming at first darkish brown, but soon becoming amaranth-red. The red tint becomes more evident when a trace of ferric chloride is added. It has the formula: $C_{14}H_{15}O_5$. Dr. Isnard, of Marseilles, has employed it with success in the treatment of malarious affections in one and a half and two-grain doses.

PHYSIOLOGICAL ACTION OF VANILLIN.*

BY DR. GASSET, PARIS, FRANCE.

Vanillin, which gives the aroma to vanilla, belongs among the aromatic aldehydes (aldehydes benzoic, cinnamic, etc). Many cases of poisoning occur among workers in vanilla and persons who have eaten foods containing vanilla. These are due to vanillin. According to experiments made on frogs, vanillin has a convulsive action, exercised principally on the spinal cord; this convulsive action is succeeded by depressive action exerted equally on the spinal cord and motor nerves; the sensory nerves remain unaffected. Vanillin has a local, irritant action. Hypodermically injected into dogs it raises the temperature half a degree. In frogs, three-fourths to nine-tenths of a grain is a poisonous dose; the toxic dose for higher animals has not yet been determined. Vanillin checks putrid fermentation and in its physiological properties seems to be a diminutive strychnine. Its best physiological antidote or antagonist is chloral hydrate.

It may be used with advantage as a gastric stimulant, especially in atonic and fermentative

*Archives de Pharmacie, Aug. 5, 1886.

dyspepsias. In three-fourth grain doses it may be used as a corrigerent for remedies badly borne by the stomach. In case its excito-motor properties are desired, it may be administered in a gummy vehicle in three to three and a half grain doses.

SYRUPUS FERRI IODIDI.

BY OTTO GEORGE MILLER, PH. D.

No other officinal syrup deserves so much consideration in preparing and preserving, as does the syrup of iodide of iron. It is a well-known fact, that this syrup, if not prepared with the utmost care, and if not kept in a proper place accessible to light, will soon become altered in general appearance. The first noticeable change consists in the formation of a bromine tint on the surface, which slowly extends downwards, this being the first symptom of incipient decomposition. A few drops of this discolored syrup, brought in contact with a little gelatinized starch, will at once impart the charactistic blue tint to the paste, proving that free iodine having been liberated by the effects of oxydation and the production of ferric compound, is present in the syrup. Subsequently hydrate of iron, containing more or less iodine, will be precipitated.

This alteration is produced by various causes. At first we attributed it to the presence of atmospheric oxygen, which might have gained access by not having the vial securely corked; or to the fact that the vial had only been partly filled with the syrup. The syrup itself may not have been of the proper density, and decomposition was in consequence accelerated. At the same time we must guard against a syrup of too high a density, which would favor the deposition of grape sugar.

I cannot exactly coincide in the views upon which the process of the U. S. P., for the preparation of the syrup has been constructed. In the first place, the amount of iron proposed in the U. S. P., is insufficient for the speedy preparation of a syrup. The process itself is too lengthy and complicated. A porcelain vessel in which to boil the syrup is not exactly necessary, as a tin can will be found of much better service. A wooden or porcelain spatula is also an unnecessary implement, as an iron spatula will answer the purpose better by far. The following is a process which I have found to be the most rapid, simplest and most reliable for the preparation of Syrupus Ferri Iodidi:

℞ Iodine resubl . . ounces, 2
Iron in the form of fine wire*, drams, 6
Sugar, ... ounces, 14
Water, distilled sufficient.

To the iodine in a porcelain mortar or evaporating dish, add five ounces of distilled water followed by the full amonnt of iron, and keep the mixture at short intervals in motion with the pestle. Ferrous iodide (FI_2) is now being rapidly formed, and dissolves with a pale green color. When the reaction has completely ceased, which by this process never requires more than perhaps twenty to thirty minutes, pour the solution with the rest of undissolved iron upon a double paper filter, and gradually add distilled water until eight fluid ounces of filtrate have been obtained. I employ a double paper filter in order to secure greater resistance to the weight of iron, and to prevent, also, any iron particles from perforating the filter, which by the use of a single filter is sure to happen. The clear filtrate is transferred into a suitable tin vessel; the sugar added and the mixture heated to the boiling point, stirring with an iron spatula until all there is of sugar completely dissolves. The product is then strained and sufficient water added to make the syrup measure sixteen fluid ounces. The syrup is poured, while hot, into two-ounce vials, which must be perfectly dry, care being taken that the vials are kept full to the neck, in order to keep out atmospheric oxygen.

The vials are closed with a cork, through the lower surface of which is passed an iron wire and then exposed to daylight. The wire should be sand papered, as it is usually somewhat greasy.

A syrup prepared according to this process is of a beautiful light green color and will remain unchanged for a long time. I have never seen it change, except when the vial was nearly empty and the iron wire not in contact with the syrup; hence it is important that the wire always touches the bottom of the vial. A syrup happening to contain a little free iodine can be rendered "dispensable" by the addition of a little iron wire and then slightly heating. This preparation should never be combined or prescribed with any other drug or chemical. The dose is from ten minims to a fluid drachm given after meals. It is best administered in sweetened water imbibed through a glass tube. As its virtues depend solely on the quality and mode of administration, care and judgment must be exercised to insure the desired effect.

CHICAGO, SEPT. 1, 1886.

* A slight deviation either way from this quantity is immaterial.

GARANCINE.

Garancine, a substance obtained from madder (Independent Journal) has within the past few years been extensively used in calico madder printing. Robiquet and Caventon discovered garancine in 1827, but not until 1839 did it come into use in the arts, since which time it has been extensively used in calico printing. The washed product resulting from treating madder with sulphuric acid is garancine. The residue of the madder bath after dyeing Turkey red was a dead loss but it was found by Mr. Schwartz in 1843 that this residue treated with sulphuric acid in a steam box yielded garancine. It is an amorphous reddish brown powder nearly insoluble in cold and boiling water; insoluble in acids and totally insoluble in water containing an alkali. Alum rapidly dissolves the coloring matter; alcohol by repeated boiling dissolves all the coloring matter. It is made as follows: The madder is washed with acidulated water and the gum, sugar, xanthine and pectic acid dissolved out. The mass is then pressed and one part each of oil of vitriol and water mixed with it, the temperature not being allowed to rise above from 61° to 77°C., lest the coloring matter be destroyed; the amount of vitriol needed

varies according to the madder employed, as the amount of alkaline earth varies; after keeping the mass at the same temperature for several hours, it is washed with water until nearly all the acid is removed; chalk and soda carbonate are added to neutralize the last portions of acid, and after being washed, dried, ground, and sifted, commercial garancine results. Garancine or geranceaux, made from spent madder, is produced as follows:—The grounds of the madder bath liquor are treated with weak sulphuric acid to prevent fermentation; after which the liquor is drained off, the stuff well pressed, and for every 400 lbs. of it 50 lbs. of the oil of vitriol is added; after being well mixed together, the mass is placed in a double-bottomed lead cistern, the leaden plate of which is perforated with holes, and placed 5 or 6 laches from the bottom. A current of steam is introduced between the leaden plate and the bottom, and passed through the acid mass for two or three hours; then the residue is washed with water; secondly, with water containing a little chalk or soda carbonate; lastly it is washed with water alone, dried, ground and sifted. Garancine has several advantages in dyeing. First, it does not soil the white parts of the print and make them such a dirty brown color as madder—consequently so many consecutive processes are not necessary in order to remove the coloration of the white parts; it is only necessary to pass the pieces into bran and water, heated to 77° C., to have them perfectly clear. Secondly, one part of garancine has as much tinctorial power as three parts of madder. Lastly, the colors produced by garancine are much brighter than those by madder, the pinks and red not having the yellow appearance sometimes observed in madder colors; the chocolate color produced by garancine is far superior to that from madder. These colors are not so fast as those of madder, and cannot withstand the action of boiling soap and water. The quantity of garancine required to dye a piece of cloth varies from one to two pounds and a half, according to the style of pattern to be dyed.

ARSENIOUS ACID IN FOWLER'S SOLUTION.*

BY D. S. CARRAWAY.

Noticing the inefficacy of Fowler's solution manufactured by northern wholesale druggists and shipped to those who prefer buying to making it, I obtained four samples made by different wholesale druggists; a sample each from New York and Philadelphia, and two from Baltimore, and compared them by analysis with a sample from Wilmington, N. C., and one from Goldsboro. All the samples were "stock" preparations and none of the parties knew for what purpose they were bought. The following results are submitted for what they are worth:

First Baltimore sample. 1st trial yielded .746 per cent. H_3AsO_3; 2d, .739 per cent.; 3rd .742 per cent.

Second Baltimore sample. 1st trial yielded .814 per cent. H_3AsO_3; 2d, .807 per cent.; 3rd, .819 per cent.

New York sample. 1st trial yielded .792 per cent. H_3AsO_3; 2nd, .787 per cent.; 3rd, .804 per cent.

Philadelphia sample. 1st trial yielded .914 per cent. H_3AsO_3; 2nd, .890 per cent.; 3rd, .875 per cent.

Wilmington sample. 1st trial yielded .980 per cent. H_3AsO_3; 2nd, .977 per cent.; 3rd, .989 per cent.

Goldsboro sample. 1st trial yielded .990 per cent H_3AsO_3; 2nd, .960 per cent.; 3rd, .991 per cent.

The analysis was made volumetrically with standard solution of iodine. Every possible precaution was resorted to; the iodine used to make the standard solution was twice re-sublimed in the presence of potassium iodide and the figures read off on the burette the moment the starch showed the slightest permanent color. Further analysis showed that the deficiency in the Philadelphia sample was due to calcium arsenite, which is the cause of the increase of arsenious acid over the New York and Baltimore samples, both of which contained a slight trace of calcium sulphate showing that the arsenious acid used in making the preparation was adulterated with that chemical. From these experiments it is easy to see that it is best to make Fowler's solution in small quantities and at home. Only in one case did the northern preparations come up to the percentage of the old Pharmacopœia, which was .89 per cent., much less the percentage (1 per cent.) required by the new Pharmacopœia. Allowance, however, must be made for the delicacy of the analysis, for were the amount of arsenious acid not so small possibly the percentages would have been somewhat greater.

*Paper read before North Carolina Phar. Asso.

WISCONSIN UNOFFICINAL FORMULAS.

The Wisconsin Committee on this subject (Messrs. F. B. Power, C. H. Bernhard, H. C. Schrank and H. S. Eberle) recommended First: Name of the Elixir. When a preparation other than the simple elixir is used as a base in the formation of another elixir; the name of the resultant product should indicate its composition.

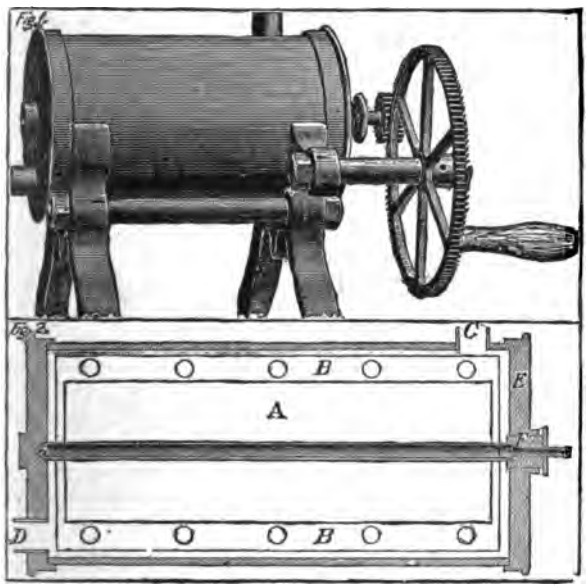
Second: The present formula of simple elixir should be so modified that but one-fourth of the prescribed amount of syrup should be added before filtering through calcium phosphate and the balance added to the filtered product. Talc might be used in place of the calcium phosphate since it is cheaper, quite insoluble in water or alcohol, and, when properly purified, of equal value as a filtering medium.

Third: The following preparations should be added, camphor ice; chlorodyne (Chandler's formula or E. Smith's modification of Brown's formula, white pine syrup pancreatin solution, pancreatin elixir, compound elixir of phosphates and calisaya (like Wheeler's), aromatic yerba santa syrup, fluid extract of licorice for quinine mixtures, pepsin glycerite and wafer ash, liquid rennet, working formula for saccharated pepsin U. S. P. strength, pepsin solution, Warburg's tincture, compound calcium iodo-bromide elixir, lithium citrate elixir, salicylic acid elixir, calcium iodide syrup, and elixir hypophosphites U. S. P. syrup strength, adding compound spirit of cardamom (N. Y. and B.) to flavor

A NEW EMULSIFIER.

A recent improvement in appliances for mixing and emulsifying oils and oily substances in a thorough and perfect manner, has been patented by Mr. George W. Sample, of York, Pa. The machine as shown in the illustration, consists in the combination of a shaft provided with radial arms bifurcated at their ends, agitating blades adjustably secured to the arms, and a receiver for the oils. By reason of the adjustable connection of the blades with the arms the blades may be set out and made to bear against the walls of the receiver, and the oil will be subjected to a thorough agitation and circulation.

The mechanism is specially intended for and adapted to use in the pharmacy; but it is also applicable to mixing oils generally. A receiver having a capacity of five to ten gallons will be of sufficient size for all purposes, but may be made of any size and adapted to the use of regular oil mixers and dealers. In small machines the gearing may be dispensed with, and the shaft provided with a crank for opening the mechanism by hand.



In mixing oils or oily substances the matter is put into the receiver and the mechanism put in operation until the desired result is produced. For emulsifying oils, the oil is first put into a receiver mixed with a suitable quantity of gum arabic or other necessary ingredients, after which water, syrup, etc., is added, and the contents subjected to a rapid rubbing and agitation by motion of the blades until the mixture is thoroughly emulsified.

This process will produce the desired result more quickly and perfectly than can be done by the old method of the mortar and pestle. The machine may be made in whole or in part of wood or metal.

Among the many points of advantage claimed for this machine may be mentioned the following: The rapidity of its action, requiring only a few minutes to make a perfect mixture. The ease with which it can be operated. Its simple construction, making it very easily cleansed. No complicated machinery to get out of order, its simplicity alone demonstrating its firmness and durability. The certainty of its operation in always making a perfect preparation, thus being a pleasure and benefit to both the consumer and dispenser.

LANOLIN.

Dr. G. H. Fox recently made some experiments (reported in the Jour. of Cutaneous and Nervous Diseases, June,) to determine the absorbability of lanolin, under the supervision of Dr. W. H. Blanc at the Skin and Cancer Hospital. He marked off on the anterior surfaces of the forearms of a young girl spaces four by six inches in extent. Upon the space so marked on the right forearm 15 grains of lard were rubbed for fifteen minutes. The left forearms was treated with lanolin in the same manner. The lard was softened more quickly by the heat of the skin and hair, and was spread much more rapidly over the surface. With as nearly an equal amount of pressure as it was possible to give, the lanolin was found to redden the skin more readily than the lard. At the expiration of the fifteen minutes, the greasy matter remaining upon each forearm was carefully collected by means of a spatula with the following result:

Lanolin used	15 grains
" removed from skin	5 "
Lanolin absorbed	10 grains
Lard used	15 grains
" removed from skin	10 "
Lard absorbed	5 grains

Two-thirds of the lanolin was absorbed and but one-third of the lard. A similar comparative test made on the back of a young ———, upon either side of the spine and beneath the shoulder-blades with lard and vaselin, resulted as follows:

Lard used	15 grains
" removed from skin	8¼ "
Lard absorbed	6¾ grains
Vaselin used	15 grains
" removed from skin	9½ "
Vaselin absorbed	5½ grains

(That there are elements of error in these last experiments is obvious on comparing them with the first). Liebrich states that a 1 to 1,000 mercury bichloride lanolin ointment will produce a metallic taste in the mouth. Dr. Fox has rubbed repeatedly upon his own skin, as well as upon others, a lanolin ointment of ten times this strength, and failed to get any gustatory proof of its absorption. In some subjects of his experimentation, however, the peculiar metalic taste in the mouth has been noted, but it is possible that a similar effect might have followed the use of lard or even vaselin. (Kiernan and Unna WESTERN DRUGGIST, 1883, p. 274, found mercury in the urine after use of ordinary blue ointment, but not after mercurial ointment made with vaselin.)

Dr. Fox has used lanolin ointments in all cases

of skin diseases without remarkably beneficial results. On the contrary, it has proved objectionable in some instances on account of its color and consistence, and, in certain cases of acute inflammatory disease of the skin, it has not been found to be as bland as one has been led to expect. (It is obvious that Dr. Fox has not distinguished between the surface treatment and the under-skin treatment.) When he used a lanolin ointment upon one side of the body, and a lard or vaselin ointment upon the opposite side, the patient has usually expressed a preference for the latter, and in no case has the rapid absorption of the former been so marked as to attract notice. He concludes from his experiments, that:

1. Lanolin is more readily absorbed by the skin than any other fatty substance. 2. As a basis for ointments, it is useful when an effect upon the deeper skin or upon the whole system is desired. 3. On account of it firm consistency, it is advisable to mix with it a certain amount of lard, especially in cold weather. 4. When applied to a highly-inflamed skin, lanolin may not prove as bland as fresh lard or pure vaselin. 5. Considering its recent introduction, its questionable superiority, and its present cost, it cannot be recommended as yet as the best basis for all ointments.

In somewhat of a contrast with these experiments are those of Dr. Pavalovsky* who concludes therefrom, that: (1) Narcotic extracts in lanolin produce their pain-relieving action with almost perfect certainty. (2) Quinine muriate is also absorbed very quickly, especially in children. (3) Potassium iodide in lanolin is absorbed rapidly. Iodine appears in the urine from two to six hours thereafter. (4) Lanolin is better absorbed in children than in adults. (5) Sponging the skin with ether facilitates the absorption of lanolin. (6) Lanolin promises to supersede all other ointment bases, and even, in certain cases, to render useless internal medication.

MARY-THISTLE (CARDUUS MARIANUS.)†

BY M. JOLLY, PARIS, FRANCE.

Mary-thistle, Steck-kornchen, Chardon-Marie, (Carduus Marianus), a syngenesious biennial, formerly enjoyed a considerable reputation. In Germany the leaves of this plant are used against dysentery and hæmorrhage, and the seeds in the treatment of spleen and liver enlargement. Tripier had found it of value in the treatment of female diseases. The discredit and disuse into which the Mary-thistle had fallen was difficult to explain since there was indubitable evidence that it had decided therapeutic virtues.

There was no longer any idea of employing the leaves and flowers whose chief constituent was tannin. The seeds do not contain tannin, but 25 per cent. of a fixed oil, separated by benzine, but slightly soluble in strong alcohol and still less in 60 per cent. alcohol. It deposits, from time to time, crystals whose reaction is neither that of an acid, an alkali nor a glucoside. On treating the seeds with 60 per cent. alcohol, a liquor results, which yields on evaporation a gummy, resinous extract in proportion of 12 per cent. of the seeds employed.

Dr. Tripier prescribes ten to forty drops of the tincture. He also uses about one-fifth of a grain of the alcoholic extract, combined with three-sevenths of a grain of aloes against constipation.

These pills do not congest the bowel, and hence do not have the tendency which aloes alone has, of producing piles. Aloes alone in the quantity given would be useless against constipation, and its action in the present instance is due to the Mary-thistle extract which stimulates the liver and the excessive secretion of bile therefrom resulting, produces the desired effect. Mary-thistle seeds are hence of value in liver and spleen diseases and their consequences, and hence have properties similar to those of burdock.

*Russkaia Meditizena, No. 1½, 1886.

†Archives de Pharmacie, Aug. 5, 1886.

ELIXIR IRON PYROPHOSPHATE, QUININE AND STRYCHNINE.*

BY C. R. BECHMANN, FOUNTAIN CITY, WIS.

The following formula will not precipitate by long standing: ℞ quinine sulphate, 120 grains; strychnine sulphate, 2 grains; iron pyrophosphate, 240 grains; sodium or ammonium citrate, 60 grains; alcohol, 2 fl. oz.; water 1 fl. oz.; glycerin, 3 fl. oz.; simple elixir enough to make 15 fl. oz. Put the quinine and strychnine in a flask; pour on the alcohol and 5 fluid ounces of simple elixir, then place the flask in hot water, shaking occasionally, until dissolved. Dissolve the iron in the water without heat, then add the sodium (or ammonium) citrate and the glycerin. Pour this solution into the alkaloid solution flask and shake well. When cold add enough simple elixir to bring the quantity up to fifteen fluid ounces. An elixir made three months ago and subjected to 41°F has remained as clear as when first made.

TANNATE OF QUININE is obtained by dissolving sixty grammes (900 grs.) tannic acid in eleven grammes (3 drachms) of water, without heat, and adding eleven grammes (3 drachms) of a two per cent. solution of sodium bicarbonate, and enough water, if necessary, to make a clear solution. To this solution (Am. Journ. Pharm. Nov.) is added a solution of forty grammes (600 grs.) quinine sulphate in twenty-seven grammes (7 drachms) of dilute sulphuric acid and eleven grammes (3 drachms) of water. The precipitate is washed on a linen strainer until the washings cease to have an alkaline reaction; it is then dried and powdered. Tannate of quinine prepared thus, is almost tasteless, contains about thirty-three and one-third per cent. of quinine, and is cheaper than the commercial article, frequently containing much less.

*Read at Wisconsin Pharmaceutical Association.

DISCOVERY OF THE MYDRIATIC ACTION OF THE SOLANCEÆ.[1]

BY DR. RUDOLPH KOBERT, DORPAT, RUSSIA.

Galen[2] states that mydriasis may result from the local action of drugs containing mondragora or hyoscyamus. Pliny mentions an artificial production of mydriasis by the seeds of anagallis. Galen's correct description and discovery were lost sight of for 1500 years. The discovery was made anew by Dr. Ray[3] in 1886, who found that belladonna leaf applied to the eye produced dilation of the pupil. Ray's discovery was soon forgotten. Everts[4] in 1773 independently made the third discovery of the mydriatic action of the Solanaceæ. Three years later the same action was independently discovered for the fourth time under the following circumstances: Dr. Reimarus[5], of Hamburg, ordered an apothecary to make the preparation of belladonna. The nephew of the apothecary, John Andrew Daries, prepared the prescription, a drop from which spurted into his eye. Very soon after this accident he was troubled by mydriasis and considerable visual interferences. Reimarus, informed by letter of the druggist's trouble, wrote that he was aware that the ingestion of large quantities of belladonna produced mydriasis, but that he was surprised to learn that the external application likewise produced this result. This was, however, he added, a very interesting matter, and therapeutic trials of the drug in cataract operations should be made. Before the arrival of this letter, Daries ascertained by experiments on a cat, that the fresh juice of the herb and of the berries of belladonna actually had a mydriatic power. Daries is hence the fourth discoverer of the mydriatic action of belladonna.

A little later, Doederlein[6] observed in his practice a case recalling Ray's case. A patient having placed a leaf of datura stramonium upon an ulcer near the eye, was soon affected with a complete paralysis of the pupil. Doederlein correctly interpreted this mydriasis as the action of stramonium, and is the fifth discoverer of this action. Independently of him, Schiferli[7], following the example of his preceptor Loder, who appears to have found out the belladonna action himself, used and recommended in 1796 an infusion of belladona for cataract extraction. Loder was the sixth discoverer of this action.

After this time the specific action of belladonna upon the eye became generally known in Germany and in other countries it is mentioned as something generally known by Tromsdorf.[8]

The action of hyoscyamus was discovered by Himly in 1800, from botanical deductions, and warmly recommended for ophthalmological purposes.[9] Ehlers,[10] his pupil, translated Himly's work into French, but, always wrote belladonna instead of hyoscyamus, inducing thus the French physicians to employ belladonna therapeutically. The second French edition, appearing 1803 in Altona, uses the word hyoscyamus instead of belladonna. In England, Paget[11] recommended belladonna for cataract extraction.

In lay circles, however, the mydriatic action of the solanaceæ was in the beginning of this century still wholly unknown, and was anew discovered by Runge, the discoverer of aniline colors.

"In Jena I became soon acquainted with Döbereiner, and discussed with him my researches about vegetable poisons, especially the solanaceæ. Döbereiner appeared pleased with the methods instituted by me and the results of my investigations; he constantly stimulated me to new researches. About this time I met Gœthe, at the instigation of Döbereiner, who had told the poet that by experiments upon cats I had found a method of ascertaining with certainty whether or not a poisoning with stramonium had occurred. Gœthe had thereupon expressed the desire to meet the young chemist, and to see the demonstration of his discovery. When I crossed the market square in the afternoon, dressed with a borrowed frock coat and stove-pipe hat, and carrying the cat under my arm, I created a universal sensation. The boys, who were loitering about the place, at the cry 'Doctor Poison!' suddenly came toward me, and surrounded me. To those joking at my fantastic appearance I said, 'Let me have peace. I am attending to some important business. I am going to Gœthe.' I was instantly released. Coming to Gœthe's house, I was led into the reception-room, and soon stood before the poet. His lofty, handsome, and powerful presence made such an overwhelming impression upon me, that, all in a tremble, I handed him the cat, as if I wanted thus to defend myself. 'Ah! So,' Gœthe said, 'that's what is going to be the future terror of the poison-mixers. Just let me look.' I then turned the cat's head so that the light struck both eyes simultaneously, and the difference between the eyes could be readily seen. Gœthe was greatly surprised. Alongside of the small slit in one eye, the round great opening in the other presented a very striking difference. In consequence of a somewhat large dose, the entire iris had almost become invisible, thus enhancing this singular aspect. 'How did you obtain this effect?' asked Gœthe. 'With hyoscyamus, your excellency,' I answered. I have placed the unmixed juice of the pounded herb in the eye, therefore the action is so strong.' 'Döbereiner told me, said Gœthe, 'that both belladonna and stramonium act alike, and that you have ascertained that the active toxic principle is contained in the plant in all its parts, from the root to the blossom, fruit and seed. How is it with other plants, especially those of an affiliated relation?' 'A friend of mine, Dr. Carl Heise, induced by the peculiar action of the stated plants, has shown in an elaborate work that only the plants of the three orders mentioned above affect the pupils in a mydriatic manner. He has tried the action of innumerable other plants on the eye, and found them all to be inert save a few which produced the reverse of mydriasis, viz., a contraction of the pupil, such

1 Abstracted from Therapeutic Gazette.
2 Methodus Medendi, Vol. III.
3 Historia Plantarium, Vol. I.
4 Berliner Sammlung, Band. V.
5 De Atropa Bellad Dessert Ready Lipsiæ, 1776.
6 Conrad Moench Lehre von den Arzneimitteln Marburg, 1795.
7 Dissertatio de Cataratta Jena, 1796.
8 Pharmacological Dictionary, 1802.
9 Ophthalmolog. Beobachtungen und Untersuchungen, Bremen, vol. 1. p. 1.
10 De la Paralysie de l'Iris occasionee par Application locale de la Belladone, et de son Utilite dans Traitement de divers Maladies des Yeux, par Himly, trad. par Emil August Ehlers, Paris. 1802.
11 London Med. and Phys. Journal, 1801, vl. p. 352;

as aconitum.' Well,' Gœthe said, 'there is a chance to discover the proper antidote for the toxic action of Belladonna. Try this, and apply both antagonistic plants either simultaneously or one after another to the eyes of a cat. Observe the result. The matter is not without difficulties, but you will overcome these. But now, pray tell me, how you came to this peculiar kind of organic chemistry?' " Runge related: "In 1810 I was—a pastor's son, from the country near Hamburg—sent to Lübeck, and placed in the Rathsapotheke as an apprentice. It was a warlike time, and Napoleon prepared his invasion of Russia. All men able to carry arms were mustered out, and, on account of the universal unwillingness to serve under the tyrant, it was a matter of difficulty to find a substitute. Through recommendation of my uncle, I had received admission into several aristocratic families, and the son of one of them became a friend of mine. One evening he came to the drug-store in a great commotion, and told me his trouble, that the day after to-morrow, he had to present himself for service, and that being without physical defect, he probably would be taken. 'I would like to mutilate my hand,' he sighed, 'in order not to go into this ignominious war.' 'That is not necessary,' I said. 'Confide in me. I believe to be able to mutilate you for a short time with impunity. They will have to exempt you from service.' 'What are you going to do with me?' 'I will make you blind for twenty-four hours.' 'How are you going to do that?' 'Listen to me. About eight weeks ago I had to prepare a medicine, according to a doctor's prescription, in which a decoction of the juice of hyoscaymus was to be dissolved in water. Preparing the medicine in a mortar, a drop accidentally got into my eye. I experienced no pain, and did not observe any alteration until sensations of light flashes caused me to go to the looking-glass. How great was my astonishment when I saw the change that had taken place in my eye. The iris had almost wholly disappeared, and the eye looked precisely like that of a man suffering from amaurosis. The power of vision was also greatly weakened, as I noticed when I closed the unaffected eye. I don't know why this state of things did not raise any fears in me. After lasting a few days, the abnormal condition disappeared, the power of vision returned, and also the normal proportions of the iris, so that both pupils appeared again of equal size. And behold! such an affection I will produce in both of your eyes, and it would be very queer if you would not be discharged, even after a superficial examination.' After making some easily-removed objections, my friend consented to this at that time very pardonable fraud, and thus saved his life, for of all the men that went from Lübeck to the war in Russia but few returned. His temporary blindness only lasted thirty-six hours, passed away painlessly, without leaving behind any deleterious results."

Runge is the seventh discoverer. He recommended in a case of suspected atropine intoxication to place a drop of the urine of the poisoned person in the eye of a cat. The word atropine was not known to him for the solanacæ. Alkaloid isolated approximately by him he called koromegyn (Greek, magnifier of the pupil). Mein,† in 1830, first properly isolated atropine, which was also independently isolated in 1832 by Geiger and Hesse,* while Liebig determined its chemical formula. The solution of pure atropine sulphate was first used by Geiger* and Hesse to dilate the pupil, who soon after isolated hyoscyomine.

Heinrich‡ showed, in 1821, the true physiological action of atropine. Fraser of Edinburgh, in 1861, discovered that physostigmine contracted the pupil. Pilocarpine, muscarine and enetine have since been shown to possess this property in a less degree.

† De Novo Methodo Veneficium Dijucacandi Jena, 1819.

* Liebig's Annalen.
‡ De Motor Iridis.

ELIXIR IRON PYROPHOSPHATE, STRYCHNINE AND QUININE is prepared by Mr. E. M. Nadal Wilson (Proc. N C. Phar. Asso.) as follows:

Quinine sulphate,	. .	grains, 135
Iron pyrophosphate,	.	grains, 256
Strychnine,	. . .	grains, 2
Alcohol enough to make		ounces, 4
Dilute sulphuric acid sufficient.		
Aqua ammonia (strong)	.	ounce, ½
Water sufficient.		
Simple elixir sufficient.		

The quinine is dissolved in a pint of water by aid of the dilute sulphuric acid, and when perfectly dissolved it is precipitated with the aqua ammonia mixed with a quart of water. This precipitate is placed on a filter and washed until traces of ammonia have disappeared. The precipitate is then allowed to drain for some time, but is not permitted to draw. By pouring the alcohol on the precipitate with care, all the quinine is dissolved, after which the strychnine is gradually added and stirred, until thoroughly dissolved. To the resulting solution enough simple elixir is added to make eight ounces. The iron is dissolved in enough simple elixir to make eight ounces. The iron and quinine solutions are then mixed and the result filtered, if necessary. The finished elixir will be of an amber color.

AN ELASTIC MUCILAGE is prepared according to the Chemische Centralblatt, as follows: To a solution of 1 part of salicylic acid in 20 parts of alcohol, 3 parts each of soft-soap and glycerin are added. The mixture after being throughly agitated, is mixed with 270 parts of mucilage containing about 30 per cent. of acacia by weight. This mucilage keeps well and is said to remain permanently elastic.

An enterprising druggist on the Island of Tiree has sent a circular to the medical officers in charge soliciting orders for lints, bandages and other surgical goods in case of an outbreak between the Crofters aud the authorities—the English government.

Editorial.

A case involving a decidedly peculiar phase of pharmaceutical jurisprudence recently occurred in Iowa. A prescription was presented calling for extract of dandelion. The pharmacist took down a jar of extract of belladonna in place of the dandelion. While the pharmacist was seeking some other ingredients, the customer asked and obtained permission from the pharmacist to take a dose of dandelion extract which he did from the belladonna jar. He soon showed symptoms of belladonna poisoning. The pharmacist was arrested, fined and compelled to pay damages for the illness which resulted from the belladonna poisoning. The judge held that although the man poisoned himself the blunder of the pharmacist was the cause of such poisoning. The case was not carried to the Supreme court as it should have been. Such a decision was obviously unjust since the part of the customer as regards contributory negligence was by no means small. He certainly did not take the most ordinary precautions to see that he was taking the right drug; precautions such as he would have taken with medicines in his own house. The decision in the present case furnishes a dangerous precedent for the benefit of drug store loungers who avail themselves of semi-permission to use innocuous drugs which are sometimes misplaced with dangerous drugs in even the best regulated pharmacies. For poisoning such a lounger under such circumstances heavy damages might be inflicted on the pharmacist through the present decision.

The desirability of women entering the ranks of the medical profession received negative mention by President Moore of the British Medical Association in his annual address before the recent convention at Brighton. Dr. Moore maintains that the influence of the preliminary training incidental to attaining the necessary qualifications and the subsequent practice, could not fail to indispose and incapacitate women for the especial function assigned to them by nature for the maintenance and progressive improvement of the human race.

How correct this prognosis may be, the future alone can positively determine, but for the present the diagnosis discloses the fact that the medical profession is greatly 'over-crowded," and that this condition increases in the ratio that women contest, or share the right to practice medicine. The theory has been advanced, and not without sound logic, that the encroachment of women in the pursuits heretofore exclusively enjoyed by men has had the effect of producing the changes in our social conditions to which the different economic disturbances may be attributed. The question, however, is one exceedingly difficult to deal with, and will probably be determined only by that rudely practical and temporizing test—the survival of the fittest.

Pharmaceutical education in Japan appears to be of a high standard of excellence, judging from the report of the University of Tokio. The pharmaceutical department of this institution requires three years attendance of two terms each, a winter and a summer term, with about two months intermission during the entire year. The instruction, which is given in German, is divided consecutively in the following order: Physics, Botany and Inorganic Chemistry for the first term; Botany continued with Zoology, Mineralogy and Organic Chemistry in the second term; Materia Medica and Pharmaceutical Chemistry in the third term; General Practical Chemistry and continuation of Materia Medica with a course in Microscopy in the fourth. The fifth term is devoted to practical work in the laboratory comprising the subject of galenic and pharmacal preparations and the art of dispensing. The sixth and last term is confined to practical and pharmaceutical chemistry, embracing the testing of medicines. Frequent examinations are held and candidates are required to show progress made before entering upon a new branch of study.

This outline of study, it will be observed, is more elaborate and comprehensive than the curriculum of any school or college of pharmacy in this country, and in its construction we presume to say an ideal course. It seems at first surprising that Japan should lead more pretentious countries in this regard, but, judging from the impetus given to education by the Japanese government during the past few years, the self-styled civilized and liberally governed nations will soon be distanced in the race of progress.

If the American Pharmaceutical Association desires to do the profession and public a most important service, let it take action for the enactment of a law by Congress having for its chief features the following, as tersely stated by Dr. Woodbury in a recent address:

"1. The examination of all proprietary medicines by a Government or State commission of experts, who shall have the power to permit the sale of such as are harmless or especially likely to prove serviceable, and to prohibit the sale of all which are peculiarly liable to do injury, and those which are found to be worthless and frauds upon the public. Such a commission was appointed by the Japanese Government several years ago, and has been found to be of great service in that country. 2. The instruction of the public to properly estimate drugs, and to regard every unknown medical agent as dangerous, and endowed with capacity for harm. Let them escape the caustic criticism of Moliere upon those who pour medicine about which they know little into bodies about which they know less, in order to cure disease about which they know nothing at all."

An incidental provision in the first recommendation should require the publication of the constituents of permitted remedies on their labels.

The English Vice-Chancellor has recently decided (Chemist and Druggist) in the following case that geographical names become under certain circumstances purely fanciful designations: A London perfumer had made for some years a preparation which he called the "Melrose Favorite Hair Restorer." He attempted to secure an exclusive right in the use of that combination of words. The Comptroller declined to give a London gentleman perpetual possession of the name Melrose in connection with hair restorers on the ground that a geographical title could not be considered a fancy word. The Vice-Chancellor, however, decided that, used in this connection, the name no longer retains its geographical signification, but becomes a purely fanciful definition. As the Chemist and Druggist truly says, this is a very dangerous doctrine. "What is to prevent the extension of the principle thus established? Would any druggist be permitted to register the title 'Mitcham

Lavender' if he could only prove that the product in his case had never had any association with the Surrey village? Or, might another grow poppies in his back garden and register the title 'Turkey Opium' for some concoction from them if he could only produce evidence of the absolutely inaccurate character of the description." There is, however, no danger of the American patent office following this English precedent, since in the famous "Tonga" case one of the reasons why the copyright of this term was nullified was because (WESTERN DRUGGIST, December, 1881) it was the designation of a group of islands in the Pacific. The Chemist and Druggist keenly points out that under such a decision the inhabitants of a town could be prohibited from applying the name of their town to their own manufactures.

A practice fraught with no little danger is the sale of drugs by the "cent's worth." Sometimes remedies are purchased by the "five" and "ten cents worth" which, given to an adult or a man, would be beneficial or innocuous while, if given to a child, or a woman who was enciente, they would produce serious consequences. What is the pharmacist's responsibility under such circumstances? The question has never been raised in a suit for damages, but pharmacists are so often censured by coroner's juries for accidents arising from such a practice that there is sufficient basis for such a suit. It has been recently claimed and with justice that it is the pharmacist's duty to ascertain whether the purchaser of drugs understands their use; and this implies the determination of the purchaser's knowledge of the dose and the effects. Such being the case, there is no doubt that the neglect to take such precautions would constitute such contributory negligence as would entitle the purchaser to damages. The point recently raised involved merely the question of dose, but the question of effect is also involved. The pharmacist dispensing drugs by the dime and nickle's worth should always be careful to ascertain that the purchaser fully understands the effect and dose of the purchased drug. Precautions of this kind would prove to be both directly and indirectly remunerative from every standpoint since in many instances the quantity required for a specified sum would be much less than that demanded, while the dangers of censure by coroners in search of scapegoats for accidents, would be avoided.

IN the present number of the WESTERN DRUGGIST Dr. Kiernan calls attention to the untoward effects of paraldehyde, basing his results on an extended experience with the drug. The fact that other observers had not at the time observed similar effects, is no evidence that the alleged effects were due to impurities in the drug. Similar explanations were given of the untoward effects of chloral hydrate when described by Dr. Kiernan. Since Dr. Kiernan's article was received we note that Dr. Sommer (Neurologisches Centralblatt) has observed similar effects from paraldehyde. It is safe to assume, therefore, that urethan hypnone, etc., will be followed by similar untoward effects when the present enthusiasm concerning these drugs has settled down into a critical analysis of their properties. The matter is of pharmaceutical interest, chiefly, because: Untoward effects directly due to drugs are, at first, ascribed to imperfections in the drugs themselves, their mode of manufacture or the method adopted in dispensing them. The pharmacist is therefore first held responsible for the untoward effects of drugs noticed when the fashionable enthusiasm for their administration begins to calm down. This was the case with chloral hydrate. Introduced by Liebrich as a safe hypnotic, it was found to kill a good many people for whose death the drug manufacturer and the pharmacist were at first held responsible by the physicians; the drug was finally discovered to be the real cause after not a few pharmacists had been financially injured by medical inuendoes about the purity of their drugs. The same story is being told of paraldehyde and will be told of urethan, etc. If the pharmacist be acquainted with historical pharmacology, he will have sufficient material to shield himself against such aspersions.

Dr. Clouston once called attention to the fact that a lunatic under his charge, but on parole, was able to dupe sane people into buying his patent elixir of life, and the career of two patent medicine men just closed is additional evidence of the gullibility of the public in this particular. "Dr." S. A. Richmond, an epileptic lunatic, has for years been manufacturing and selling a remedy for "fits and nervousness" called the "Samaritan Nervine." This remedy, probably originally prescribed for "Dr." S. A. Richmond's own epilepsy, had an immense sale in the West. That it never cured "Dr." Richmond is evident from the fact that he recently shot Col. J. W. Strong during an attack of epileptic fury, and has just been acquitted of murder on the ground of insanity. Utterly illiterate, and an epileptic lunatic, "Dr." Richmond was yet able to realize an immense fortune from preying on the misfortunes of epileptics, the most gullible and afflicted of mankind. From the profits of his "Samaritan Nervine" he was able to build a magnificent hotel at St. Joseph, Mo., where unfortunates like himself were treated under his special supervision. "Dr." J. H. McLean has just died from an apoplecticform attack consequent upon the form of insanity from which he, like Helmbold, suffered. These men reaped fortunes from the morbid fancies of sufferers like themselves. That some legal regulation of the patent medicine business is required must be evident from these and other instances of the harpy-like character of the traffic.

Newspaper medicine is a wonderful compound of sense and nonsense, the latter too often predominating in a dangerous degree. Some newspaper medical man on the Chicago Tribune recently puffed rectified oil of turpentine in teaspoonful doses as a cure for diphtheria. While turpentine is of value in diphtheria, typhoid fever, and allied filth diseases, as has been shown by Stokes (Lectures on Fever), still it produces very dangerous inflammation of the kidney, and hence is not to be administered in a routine manner. The public has great faith in newspaper science, and this "remedy" would undoubtedly have killed scores of people had it not been for a conscientious pharmacist, who, alarmed by the sudden demand created for turpentine, called the Tribune's attention to its dangerous teachings. Diluted in egg nogg and milk punch, turpentine is of great value as a heart stimulant; given undiluted it poisons the heart through its action on the kidneys.

The druggists of the Second Senatorial district, comprising the southern section of Chicago and the towns of Hyde Park and Lake, are making an active canvass to secure the Republican nomination (equivalent in this district to an election) of Mr. T. H. Patterson for the legislature The efficient leadership of Mr. T. N. Jamieson has already made almost certain Mr. Patterson's nomination. The political strength developed by the druggists was a revelation to the professional politicians, and proves what we have always maintained, that if druggists are made the targets of unjust or vicious legislation, they have only themselves to blame. Their influence before and at election time will, if only exerted, assure the election of capable and honest men in most localities. Their duty as citizens, if not as druggists, is clear.

Queries and Formulæ.

WE cordially invite queries for this department on any subject of pharmaceutical interest. Correspondents will give their name and address, but initials only will be printed when desired. It is especially requested that they furnish such information as they may already possess on the subject embraced in their queries. Queries cannot be answered by letter. Communications for this department should be addressed to Editor of the WESTERN DRUGGIST, 69 Dearborn Street, Chicago.

168. TEST FOR CREOSOTE.—C. N. Wilson (Rochester, N. Y.) inquires why the collodion test fails to distinguish creosote from carbolic acid. He obtained samples from different stores but all behaved similarly to collodion. The reason is a unique one; all the samples were carbolic acid.

169. POISONED WHEAT.—W. H. Q. (Laramie, O.) asks how to prepare poisoned wheat used in Germany for poisoning rats, mice, etc. In view of the casualties daily occurring from the use of rat poison, etc., we do not feel like encouraging the employment of poison at all for the destruction of animals, much less in a form so difficult of detection as in wheat.

170. ORIENTAL CREAM.—F. N. W. (Howard, Dak.) The formula for this preparation was published in this journal, page 278, '85. According to an analysis of Dr. James P. Tuttle (Medical Record, N.Y.), Oriental cream (Goraud's) consists of calomel and water. We should like to call the attention of a certain "analytical" contemporary to this statement, that it may be verified or corrected in view of the commendations this apparently dangerous article has received from it.

171. DISTILLATION OF WATER.—W. J. Sanborn (Webster, D. T.) asks the best method of distilling water; whether one distillation will suffice to free it from alkali; and the best form of still adapted for the purpose. One distillation if properly conducted, that is condensation perfect, will suffice. As to the best form of still, it depends upon the quantity of water desired of the ordinary pharmaceutical stills, "Herrick's Automatic Still," made in Grinnell, Iowa, and for sale by Morrisson, Plummer & Co., Chicago, is probably the best adapted, as it is designed solely for the distillation of water. In larger quantities a still may be constructed by leading live steam from a boiler into a long coil of well tinned copper, placed in a barrel supplied with running water to keep it cool. Potassa-alum may be tried as indicated in another part of this journal.

172. PILLS OF POTASSIUM IODIDE.—C. & D. (St. Paul, Minn.) inquires how the following prescription may be dispensed without the pills becoming soft and losing their form:

℞ Potassii iodidi..... ..... ʒii
Hydrarg chlor corros..... grii
M. et ft pilulæ No. xxx.....

The difficulty is due to the water contained in the potassium iodide. It may be overcome by using iodide, powdered and carefully dried, and mixing it with about 30 grains powdered licorice (root). To this the corrosive sublimate is added, previously triturated with about an equal weight of the licorice powder, and the whole thoroughly mixed. To the powder is then added some liquid or semi-liquid adhesive substance, such as glucose or purified extract of licorice, according to the color of the mass desired. The mass should be left standing for about ten or fifteen minutes if upon the addition of the excipient it proves too soft; a convenient consistency may be easily obtained by regulating the amount of excipient.

178. SYRUP CALCIUM AND SODIUM LACTOPHOSPHATES.—Z. L. Martin (Hubbard, Iowa) desires the formula for the above containing 2 grains of the calcium and 1 grain of the sodium lactophosphate to the fluidram. In the absence of an authoritative formula we recommend the following:

Take of

Calcium phosphate.....	grains	180
Sodium phospate.....	"	90
Lactic acid.....	"	400
Orange flower water.....	fl. oz.	1
Sugar, granulated.....	ounces	10
Hydrochloric acid, ammonia water	each sufficient.	
Water sufficient to make fl. oz.....		16

In the lactic acid dissolve the calcium phosphate, previously precipitated by ammonia from its acid solution as directed in the officinal formula for syrup calcium lactophosphate; to the solution add the sodium phosphate and the orange flower water, and water sufficient to make 10 fluid ounces. Filter the solution; in the filtrate dissolve the sugar without the aid of heat, and finally strain the syrup and add sufficient water to measure 16 fluid ounces.

174. THE STRENGTH OF WINE OF OPIUM.—Chas. Crookes (Gilman, Iowa). The strength of wine of opium has been decreased considerably, viz.: from 1 grain to the minim in the U. S. P. '70 to 10 per cent. in the U. S. P. '80—or 1 grain in 10.5 minims. Assuming the specific gravity of the wine of opium to be 1., and the weight of a pint of water in round numbers to be 7,300, we would then have:

One pint of wine of opium, 7,300 grains, one-tenth of which is 730 grains. By dividing the number of grains of opium (730) by the number of fluid ounces, or fluid drams, in one pint, we obtain the quantity of opium represented in either fluid measure, viz.:

730:16=45.6+grains..... ....in 1 fluid ounce, or
730:128=5.7+grains..... in 1 fluid dram.

In the same way the strength of any liquid preparation may be computed when the specific gravity is known. The weight of a pint of water at 7,300 grains is sufficiently accurate for all practicul purposes.

175. EMULSIONS.—R. P. D. (Anquilla, Miss.) inquires why some authorities direct in preparing emulsions, that the gum be first mixed with the oil and the water then added, while by others a reverse process, the oil being added to the mucilage formed by dissolving the gum in water, is advocated. Opinions differ considerably upon the subject of emulsions, both as to the kind of emulsifying agent employed, and as to the manipulation. In this country the "mucilage process" has been principally employed, and not until within the last fifteen years has the other, which may be called the "dry gum process," been in use. The latter process was recommended by the late Professor Procter, and is now preferred by nearly all expert pharmacists; it is also employed exclusively in Germany, and has been termed the "German" method.

Preparing an emulsion is to a great extent an art depending as much upon experience and manipulative skill for success, as it does upon a knowledge of the theory. For this reason a method at the hands of one operator will

yield more satisfactory results than the same method in the hands of another, who, though equally skilled, may be unfamiliar with the process employed. We do not fear to assert, however, that the "dry gum" or "German" process is not only the most expeditious method but has the advantage in yielding a more permanent emulsion than is otherwise obtainable. This may be explained upon the theory that the water when added to the mixture of oil and gum (which approximates a solution) acts dissolving upon the latter with such avidity as to be brought more fully in contact with the minute oil globules. A more complete "union" being thus effected, a more permanent emulsion is the result.

176. SYRUP YERBA SANTA.—"Constant Reader" (Chicago). Formulas for the above have been published in this journal from time to time; one recently (page 13, '86) by Rother, as follows:

Take of
Yerba santa, "ground,"..... 4 troy ounces
Magnesium oxide..... 6 drams
Sugar, granulated..... 24 ounces.
Alcohol, water, of each sufficient to make two pints.

Mix one measure of alcohol and seven measures of water, and to two fluid ounces of this liquid add the yerba santa and 4 drams of magnesia previously mixed. Pack this mixture firmly into a cylindrical percolator, and pour on the alcoholic dilution until the liquid has descended to the base of the column. After 12 hours' maceration pour on more of the menstruum, until one pint of percolate has slowly passed. Mix this with the remaining magnesia well and expose to the air for twelve hours. Now filter and in the filtrate dissolve the sugar by agitation, or by means of a gentle heat, and strain through a fine sieve.

We would also recommend the following formula constructed in accordance with the views advocated in the paper by Hallberg (p. 296, August):

Take of
Fluid extract "Yerba Santa"..... fl. oz. 4
Syrup sufficient to make..... " 32

Heat the syrup to about 160° F., add the fluid extract and let the mixture stand in a covered vessel for two or three hours, with occasional stirring; a temperature of about 140° being maintained. It may be nece sary to supply the loss of water through evaporation by the addition of a little water. When perfectly cold the syrup is strained.

177. GLYCERITE OF PEPSIN.—(Same correspondent as above). Formula desired. The official formula for Solution of Pepsin directs 40 per cent. of glycerin by weight; this proportion of glycerin may be doubled in the preparation of a glycerite. The pepsin may also be dissolved in glycerin without addition of acid or water, but the solution is effected very slowly. The strength of the officinal solution is about 10 grains to the fluid ounce of officinal pepsin; this may be increased to 20 grains to the fluid ounce with advantage as follows:

Take of
Pepsin, U. S..... grains 560
Hydrochloric acid..... " 84
Glycerin..... fl. oz. 12
Water sufficient to make..... " 16

Mix the pepsin with 4 ounces of water to which the acid has been added; let stand 24 hours, then filter and add the glycerin.

178. PURIFIED INK.—J. G. Bodenschatz (Lemont, Ill.), having had frequent calls from German customers for the above—gereinigte tinte—asks what it may be. It is used in Germany in the treatment of gravel. One of the oldest forms of iron used medicinally was common ink; its reputed efficiency as transmitted to posterity, has been preserved, however, only by people in certain localities, who have a special fondness for old notions and superstitions. As it was soon discovered that the active ingredient—iron—could be presented in a more agreeable form, ink as a medicinal agent was soon a thing of the past. But in order probably to compromise with the old-fashioned notion, the name "purified ink" was bestowed upon different iron preparations. The tincture of chloride of iron is no doubt what is desired.

179. CALCULATION OF THE DOSE OF EXTRACTS, BASED UPON THE DOSE OF THE CRUDE DRUGS.—E. E. E. (Marion, Ill.) asks how to calculate the dose of an extract (solid), providing the dose of the crude drug is known. Nothing is easier to accomplish, provided that the percentage of extract obtained from the drug is known.

The percentage of extracts obtained, appended below (taken from Lecture IV., National Institute of Pharmacy) will be found more nearly accurate than any similar published table; from these the *quantity of drug represented by one grain of extract* (and the *dose* also) may be calculated by dividing the percentage in 100.

PERCENTAGE OF EXTRACTS,

Extractum.	Per cent. of Ex. fr. drg.	Extractum.	Per cent. of Ex. fr. drg.
aconiti.....	20	nucis vomicæ.....	10
arnicæ radicis.....		physostigmatis.....	2.5
belladonæ	22	podophylli.....	10
cannabis Indicæ....	10	rhei.....	35
cinchonæ	16	stramonii (seed)....	15
colocynth.	18	aloes aquos	50
conii.....	25	colchici.....	35
digitalis.....	25	gentinæ.....	30
ergota.....	20	glycyrrhizæ purum.	40
euonymi	20	hæmatoxylon.....	25
hyoscyami alc.....	17	krameriæ	30
iridis.....	20	malti	65
jugandis	15	opii.....	65
leptandræ.....	10	quassiæ.....	5
mezerii.....	10	taraxaci.....	50

The dose of a preparation must be based upon the dose of the crude drug, and estimated according to the quantity of drug it represents. It is therefore best to learn the dose of the drug itself, from which the dose of all preparations from it may be easily computed when the strength is known. For example: If the dose of nux vomica be 3 grains, the dose of its preparations would be as follows:

	Quantity drug represented.	Dose grains.
Nux vomica, powder.....	1	3
" " abstract	2	1½
" " extract.....	10	3–10
" " " fluid.....	1	3

In short, to learn the dose of an extract, or any other galenic preparation, it is necessary to know: (1) the relation of the preparation to the crude drug ;(2) the dose of the crude drug.

180. TANNATE OF QUININE.—Same correspondent as above asks if quinine when mixed with tannic acid is changed therapeutically (?) and if so, the difference in its effects upon the system. The two substances under favorable conditions form a new compound or salt—tannate of quinine. This is distinguished by its almost complete insolubility in water, and as the bitter taste of quinine depends upon the degree of solubility of the particular salt, it may be readily seen why the tannate is almost tasteless. On this account it met with great favor when first introduced, but it soon became apparent that the proportion of tannic acid required in the compound, was greater than could be

dissolved by the acid in the gastric juice, without producing other disturbances. In whatever form the quinine be administered, it should be rendered in a soluble condition to be absorbed in the system, and in this respect the tannate is the least promising. Aside from the above considerations, the therapeutic action of tannate of quinine does not differ from that of any other quinine-salt.

181. BRUCINAE (C. C. G., Iowa) is not an active principle but the name of a secret preparation for the hair, sold by "Bruce," of New York, N. Y.

FORMULAS WANTED.

Haas' Hog Remedy.
Prof. Anderson's Dermador.

182. ALUM AND BLUE VITRIOL CRYSTALS FOR SHOW WINDOWS.—Dr. R. Ph. G. (Halstead, Kansas.) The crystals to which you refer are made by crystallizing the particular chemical from very large quantities (a hogshead or more) of a moderately concentrated aqueous solution, which is allowed to evaporate spontaneously and the crystals to form slowly upon a form, made usually of wire or string suspended in the solution. The material slowly deposits itself upon the wire form in the characteristic crystal of the chemical, and when finished, is easily removed from solution.

The conditions necessary for success are large quantities of the solution, plenty of time for the formation of the crystals.

183. A GOOD "NERVE" PILL.—P. L. A. (Kalamazoo, Mich.) We think you will find the following a good nerve pill:

℞ Quinine Sulphate	grains	1
Acid Arsen	"	1-50
Iron by hydrogen	"	½
Strychnine Sulphate	"	1-60
Viburnin	"	½

M. At a dose.

184. VARNISH FOR LABELS.—A. J. G. & Co. (Grand Rapids, Ohio) writes us as follows:

You say to prevent the label from being stained it should be first covered with glue, etc. Some fifteen years ago we relabeled with a gold leaf label and was instructed to cover or size before varnishing, and in less than a year they changed to a dead, mouldy color—glass was destroyed and metal looked like old coffee. We tried *varnishing the label* on a few afterward, and they are bright to-day. Sizing will spoil the label.

Labels that are already sized require no further application of glue or gelatine, but simply a coating of varnish. The gelatin or glue was recommended in Query 161, under the impression that the paper was plain, unsized paper.

185. EAU DE BOTOT.—Jerry Newman (Wheeling, W. Va.) writes that the formula for the above, published last month, is not correct. "I have," he declares, "the original and only formula in the author's own handwriting; he died some years ago." The tooth-wash, which originally made its appearance in France under the name of Eau de Botot, no doubt, gave rise to the thousand-and-one preparations in existence of a similar nature, as the original author has not been definitely located. We may assume that our formula, taken from Dietrich's Manual, is as good as any.

186. FREE HYDROCHLORIC ACID IN LACTOPEPTIN.—"Please give us your opinion of the purported formula of Lactopeptin. How is it possible to have *free* hydrochloric acid in combination with organic matter?"—Rains & Son, Columbia, Tenn.

It is not pretended that the hydrochloric acid is in chemical combination with any of the organic matter, but is simply mechanically incorporated with the pepsin to aid solution when in contact with water. The quantity of acid is not large, and as it does not destroy organic matter in the same way that many other acids do, and as in a diluted form, it is one of the natural acids of the stomach, we should conclude that its appearance in the preparation is not amiss.

187. A CHEMICAL PROBLEM.—V. Wilhelm (Pittsburg, Pa.) asks which of the three elements, potassium, sodium, or lithium, taken in equal weights, will liberate the greatest volume of hydrogen, when placed in contact with water, and the reason for such liberation. The liberation of hydrogen is known to be due to the decomposition of water by the action of the elements mentioned, which unite directly with the elements of water, forming hydrates, liberating hydrogen. If the resulting chemical reaction be reduced to its simplest form it will be found that the atomic weight of each element yields one volume of gas; hence it will take 39 of potassium, 23 of sodium and but 7 of lithium to yield the same volume. Now, if equal weights of the three elements be taken, the element with the lowest atomic weight, lithium, will liberate the largest quantity of hydrogen.

188. TURBID FRUIT JUICES.—G. R. A. (La Crosse, Wis.): Fruit juices that have undergone fermentation, free from sugar and difficult to filter, may be clarified by the addition of a small quantity of skimmed-milk, with which it should be thoroughly agitated. The natural acid in the juice coagulates the casein of the milk, by which the suspended impurities are enveloped and settle to the bottom of the vessel, leaving the liquid clear, by filtering through paper or better paper pulp.

189. EAU DE RABEL.—E. S. G. (St. Albans, Vt.) asks: "What is Eau de Rabel?" It is a preparation of the French Codex used to dissolve quinine, to remove its bitter taste and to increase its chances of absorbability in the body. It is made as follows:

Officinal sulphuric acid	parts	100
Ninety per cent. alcohol	"	300
Corn poppy petals	"	4

The alcohol is introduced into a flask; the acid is added in small quantities, the mixture being agitated with care so as to secure a uniform distribution of the well marked rise in temperature, which results when the acid is mixed with alcohol. The corn poppy petals are then added and allowed to macerate for four days, after which the mixture is filtered and placed in a dark colored bottle. Many pharmacists have a tendency to substitute sulphuric acid for Rabel water, but, as has been shown by Carles (Bulletin de la Societé de Pharm. de Bordeaux, June, 1886), this substitution is not justifiable. From the chemical reaction which produces the high temperature occurring when the acid and alcohol are mixed, sulphovinic acid results, and the older the Rabel water the more sulphovinic acid it contains. In the presence of sulphovinic acid lies the advantage Rabel water has over dilute sulphuric acid. A sulphuric acid lemonade or other potion, made with Rabel water, is more palatable and better tolerated than when made with dilute sulphuric acid. Rabel water dissolves quinine much more rapidly and thoroughly than sulphuric acid, since one part of water dissolves one part of quinine sulphovinate, while it requires eleven parts to dissolve one part of the neutral quinine sulphate.

SACCHARIN. (J. M. V., La Crosse, Wis.)—The substance saccharin is obtainable through any wholesale druggist and now costs about $12 a pound. As saccharin is anhydroorthosulphaminbenzoic acid, an aqeous solution would be sulphaminbenzoic acid and hence a neutral solution would be thus neutralized by an alkali or alkaloid. It is manufactured in Germany.

ILLINOIS ABORTIFACIENT LAW.—(T. M. G., Chicago, Ill.) The law governing the sale of abortifacients in Illinois, is as follows:

"No druggist, dealer in medicines, or any other person in this state shall sell to any person or persons any drug known or presumed to be ecbolic or abortifacient except upon the written prescription of some well-known and respectable practicing physician. And any druggist or dealer in medicines, filling such prescriptions shall, in a book especially provided for that purpose, correctly register the name of the physician prescribing, the person to whom sold, the name of medicine or medicines and the amount together with the date of the sale. Sec. 2. No druggist, dealer in medicine, or any other person, shall keep on hand or in any manner advertise, or expose for sale, or sell any pills, powders, drugs, or combination of drugs designed expressly for the use of females, in any other manner than that hereinafter described, to wit: The proprietors of any such pill, powder, drug or combination of drugs, shall submit under oath a true statement of the formula by which the same is compounded, to five well-known and respectable practicing physicians in the county wherein the same is proposed to be sold; if the said physicians unanimously agree that the said formula is not of any abortifacient character, they shall issue their certificate under oath, to that effect, a copy of which shall be kept with the formula attached, for the inspection of any person desiring to see the same, by the druggist or dealer in medicine proposing or desiring to keep for sale such medicine—and this shall be his full warrant for such sale: Provided, this section shall not be taken or construed to apply to such compounds as are known as "Officinal." Sec. 3. Any person or persons violating any of the provisions of this act shall, upon conviction thereof, be punished by a fine of not less than fifty nor more than five hundred dollars, or by imprisonment in the county jail not less than than thirty days nor more than six months, for each and every offense, or both."

The law took effect July 1, 1873.

NOTES TO THE EDITOR.

COMPOUND POWDER OF BISMUTH.

[Editor The Western Druggist]

In the August No. of the DRUGGIST, I notice you desire a formula for Compound Powder of Bismuth. The following was a favorite combination of Dr. S. H. Tewksbury, of Portland, Me., now deceased. Since his death it has seemingly become popularized, and generally prescribed by physicians all over the country. It has been a valuable but unofficinal adjunct to the Maine Dispensary for years. It is not infrequently prescribed as "Misturae Bismuthi Comp."

℞ Powdered gum arabic,
Powdered sugar,
Powdered ginger,
Soda Bi Carbonate,
Bismuth Sublimate. aaʒ 1

M.

Each article to be added separately and thoroughly incorporated and finally passed through a fine sieve.

BRIDGETON, ME., Aug. 25, '86 F. H. HAZELTON.

[Mr. J. W. Colcord favors us with a formula also substantially as above.—Ed. W. D.]

SPIRIT LAVENDER COMP.

[Editor The Western Druggist.]

I forward this formula thinking it may be useful to some of the readers of your valuable journal. I have used it for years with perfect satisfaction.

Formula for Speedy Preparation of Spirit. Lavand Comp.:

℞ Oleum Lavandulae	fl. oz.	1
" Caryophyllii	min.	48
" Cinnamomi	"	50
" Myristicae	drams	2
Santalum Rub rasped	"	10
Spirits Vini Rect	pints	6
Aquæ	"	2

Dissolve the oils in the alcohol, then add the water. Finally put the red saunders in the filter and filter the spirits through it. This makes a finished preparation comparing in strength with the U. S. D.

WM. H. HEARN.

CHARLOTTE, N. C., July 26. '86.

ELIXIR IRON, PHOSPHATE, QUININE AND STRYCHNINE.—Dr. F. W. Rogers (Brewster, Mass.) states that he prepares elixir of iron, phosphate, quinine and strychnine, as follows, and finds no difficulty in making a clear solution. The formula used is that of the U. S. Dispensatory:

Strychnine	grains	2
Iron phosphate	"	128
Quinine	"	64
Alcohol	ounces	2
Water	"	3
Elixir of orange	"	8

The strychnine is first dissolved in alcohol by aid of gentle heat; using a beaker and alcohol lamp. The quinine is then added to the solution and heat applied until ebullition begins, by which aid the quinine is thoroughly dissolved. The syrup should then be added to this solution. The iron phosphate should be dissolved in water in a separate vessel by aid of heat, and the elixir should then be added to this. Both solutions having a temperature of 70° C., the strychnine solution should be gradually added, constantly stirring, to the iron solution. If the materials are pure a perfectly clear solution results and filtering is unnecessary. In his opinion the alcohol is responsible for the turbidity which usually results and has always resulted in his hands from the United States Dispensatory procedure.

Wormwood—(Absinth).

White sugar	grams 200	Boiling water	" 5500
Sp't nitrous ether	" 20	Oil of bitter alm'ds	min. 4
Ethereal oil wormwood	" 4	Oil of anise	" 2
		Alcohol	litres 4.5

Transfer the ingredients to a suitable vessel adding the boiling water last; when cool color a light green with the green tincture.

DUTTON'S VEGETABLE DISCOVERY.—T. A. Sprinkle (Watson, Ill.).

J. H. MCLEAN'S STRENGTHENING CORDIAL.—Frank Wright (Cave Springs, Ga.).

A whisky doctored with some bitter tonics, such as gentian and chamomile. Similar to Hostetter's Bitters.

COMPOUND SPIRIT OF CAMPHOR, much prescribed in Bristol, England, for coughs, etc., has the following formula:

℞ Tr. Camp. Co. (without aniseed)	drachms	2
Oxymel Scillæ	"	6
Syrup Opii	ounce	1

M.S. Teaspoonful as needed.

IRON SALICYLATE is claimed (Dr. J. Roussel, Journal de Medecin de Paris) to be the best iron salt for hypodermic use.

Correspondence.

We invite brief letters for this department upon any subject of interest to the pharmacist or druggist.

The publication of communications implies no indorsement by us of their contents.

Names of correspondents will not be printed if so requested.

Address matter for this department to "Editor of the WESTERN DRUGGIST, 69 Dearborn street." To be in season for the next issue, letters should reach us not later than the 5th of the month.

"THE MANUAL TRAINING CRAZE."

[Editor of the Western Druggist.]

In an article entitled "Manual Training in Schools of Pharmacy" (Druggists' Circular, July, 1886), Prof. O. Oldberg gives an exceedingly rosy view of the great results to be obtained by this novel method of instruction, as applied to pharmaceutical education. This system has been devised owing to the degeneration of the apprenticeship system in the mechanical trades, which, from various causes, has become almost a thing of the past. This result is the direct outgrowth of our social and commercial system, the struggle between two opposing forces—the employer on one hand and the employe on the other—both struggling for a monopoly; the first mentioned by segregating labor into classes, with special work, partly to increase the producing powers by making them specialists, and partly to so extend manufacturing operations to a large scale so as to gain advantage over smaller competitors. This increased production not meeting with corresponding compensation among the laboring classes, they have been forced to retaliate as a means of self-preservation. Hence we find that in nearly all of the mechanical trades the apprenticeship system, with indenture, etc., is rapidly vanishing, because organized labor recognizes in it a competitor with which it is unable to cope. In order, however, that the supply of labor material may be ample, it has been suggested that the young men may be taught a trade outside of the workshops, and, acting upon this proposition, moral manual training schools have been established for this purpose. But in this field of political economy, and in the struggle of the industrial world, pharmacy has nothing in common; no advantage to gain in trade, and less still to deduce from the theory in promoting its education.

Prof. Oldberg, quoting from Mr. Ham's recent book upon the subject of manual training, proceeds to show how "manual training is a system of object teaching;" how it teaches students "not only how they may enter shops and form and fashion things with facility, but also how they may become stronger intellectually and morally; how they may attain a wider range of mental vision, a more varied power of expression," and other of the attributes so desirable in solving the problems of life upon the stage of practical activity. Now all this reads very nice, and may be applicable in lieu of the rapidly deteriorating apprenticeship system of the mechanical trades.

But in pharmacy or the drug business these considerations have no bearing. First, because the apprenticeship system is not "degenerating," is not "itself dead and beyond resurrection," as stated by the writer, but on the contrary is improving with each year, is strengthened by each addition of qualified pharmacists to its ranks, and stimulated to better discipline by each new enactment of a pharmacy law. Prof. Oldberg says: "So long as apprenticeship in pharmacy was an institution of a substantial character and value, it was sufficient to not only preserve the art, but also to improve it; but even if the system could be restored it would be wholly inadequate to arrest the degeneracy of the science and the art of pharmacy." This degeneracy of the profession, "for which no one as yet seems to have suggested a remedy," Prof. Oldberg inadvertently professes to arrest by the introduction of manual training in the colleges of pharmacy. As to the cause of the "degeneracy" in pharmacy, appearances seem to indicate that the degeneracy is due more to these machine methods than any other cause. The art, science, or trade of pharmacy, call it what you may, its practical details cannot be learned by manual training or any machine methods; it is of too slow a growth, comprises too much of everything and too little of anything to be the subject of practical demonstration at a school. Among its fundamental principles we find order, neatness and despatch entirely beyond the training school; and finally, a young pharmacist may be ever so skillful and careful, but he may lack common sense, civility or alertness. Is the manual training school also to furnish these? But the second objection to the manual training is the most forcible. It is safe to assert that the idea cannot be carried out. In the introduction of pharmaceutical laboratories the colleges have gone as far as they can in furnishing the opportunity for making pharmaceutial preparations. Even these, owing to the miscellaneous character of the work, it is difficult to maintain, and the instruction is of rather secondary value. We have known of such an institution where powdered drugs were bought for the preparation of fluid extracts by percolation, thus actually defeating the real purpose of the training, namely, to instruct in the proper methods, as recognized in the Pharmacopœia. A fine example of object teaching! But when this may be expected even in carrying out the more important processes, what then when the training is extended to the dispensing of prescriptions and other extemporaneous preparations?

We should also like to inquire where are the drugs, prescriptions, "hand sales," etc., to come from to enable a half-hundred or more young men to practice even sufficiently to give them the least conception of the principles of the work? To maintain such an institution is well nigh, if not impossible, at best impracticable. To give to each student sufficient personal attention to make this instruction of real value is a task which it is doubtful if any teacher is in a position to conscientiously carry out. The claims of pharmacy to be a profession keep in direct accord with the advances steadily made by pharmacy as a science, and right in the wake of this progress we find also a better appreciation of the apprenticeship system. This evolution is a process of slow growth, the time, opportunity and experience for which are beyond the sphere of the school, are only found as related to pharmacy among the multifarious phases of the every-day practice in the store. A training secured short of this method is superficial at best and deceptive, because arbitrarily pursued when measured by the test of practical usefulness. While pharmacy, in common with other technical sciences, is glad to profit from the experience in other fields of education, it should not grasp at these new-fangled ideas simply because it is the "fashionable craze."

FRED. M. SCHMIDT.

CHICAGO, ILL.

PROPOSED AMENDMENTS TO THE ILLINOIS PHARMACY LAW.

[Editor of the Western Druggist.]

In view of the report of the unsatisfactory condition of the drug business made by the Committee on Trade Interests at the annual meeting of the Illinois Pharmaceutical Association, in June, 1866, by whom the operation of the pharmacy law was held responsible; and, in view of the more stringent amendments to the same now contemplated, it is deemed expedient to obtain the sentiment of every pharmacist in the State of Illinois on the following questions:

1. Are you in favor of granting certificates of registration to applicants who have had five years' experience and study with a registered pharmacist?

2. Are you in favor of graduates of medical and pharmaceutical colleges being qualified for registration?

3. Are you in favor of retiring more than one member from the Board of Pharmacy each year? If so, how many?

4. Are you in favor of making a retiring member of the Board of Pharmacy ineligible for re-election?

5. Are you in favor of nominees for appointment to vacancies on the Board being voted for by ballot by members of the Association present at its annual meetings, and by proxy by absent members, or nominated by committee as now?

6. Are you in favor of initiating reciprocity by registering in Illinois applicants who hold certificates from other State boards?

It is proposed to send above questions to every druggist in Illinois. An affirmative or negative reply to each question will be requested. The result of this canvass will be published in the WESTERN DRUGGIST, providing enough druggists are sufficiently interested in defraying the expense. Contributions of 50 cents are solicited from every druggist in the State by the undersigned, which will be acknowledged in the WESTERN DRUGGIST, or privately, as subscribers may prefer. The surplus, if any, will be returned, or used in promoting the views of the majority.

GEO. W. BEALEY, McHenry,
GEO. B. CUMMINGS, Highland Park,
A. O. WRIGHT, Waukegan,
Illinois.

[As the questions propounded above are all eminently fair and calculated to ascertain the sentiments of Illinois druggists with reference to the proposed amendments, we trust they will receive a general response. We must assume that the cash contributions received as requested for the canvass will be devoted to securing legislation in harmony with the views of the majority. We must further assume that the communication does not mean to intimate that the use of our columns is not entirely free for the purpose indicated.—ED. W. D.]

IS THE DRUG BUSINESS A PROFESSION?

(Editor Western Druggist.)

Ours would be a profession were it recognized by the medical profession, but what physician is there who does not denounce pharmacists for counter-prescribing, etc.? It must be admitted in extenuation that physicians are between two fires—homœopathy and patent medicine. To offset these two medical evils certain firms have manufactured "granules" and "tablets," to which physicians are taking with avidity, thus pleasing the public and themselves by dispensing with prescription writing, and the pharmacist. Medicine and advice are now given for the same cost, and there is (in public opinion) no danger of poisoning. Pharmacy has been going down hill faster than it came up, and stands lower now than it has done since the eighth century. In a few years fancy stores, shoe shops and groceries will supply future generations with the needed "granules" and "tablets;" these last will soon come into general "family use," as they are now put up for such purposes in some instances.

How is this decadence to be arrested? Pharmacy laws are useless. The medical profession is going back to its original use of saddle-bags. The druggist's only occupation will soon be the concoction of more pharmacy laws, holding meetings and giving big suppers. The public want medicines, and are going to have them cheap. Wholesale grocers and general dealers are catering to this desire for cheapness, selling two-grain quinine pills for eight cents a dozen. The drug business may be a profession, but will soon be a profession without visible reasons for existence. As has been well said by Mr. Wright (WESTERN DRUGGIST, August, 1886), any pharmacy law which does not recognize the medical profession antagonizes it, and this has led physicians to distrust pharmacists, and prescribe specified manufactures, fluid extracts, etc., thus making the pharmacist a mere middle-man.

N. H. PERRINE.

HOBOKEN, N. J.

[In Mr. Perrine's argument at least one fallacy is evident. The fact that family cases of granules are put up, and that quinine pills are sold so cheaply, will soon drive physicians to prescribe rather than dispense, since to do otherwise would be to encourage patients to prescribe for themselves. The same consideration of self-interest will soon drive physicians to omit specified makes from prescriptions. The evil will thus work out its own remedy. Mutual confidence between pharmacist and physician is desirable for the interests of both professions. Well-drawn and well-executed pharmacy and medical practice laws tend to establish such mutual confidence by driving out the quacks from both professions.—ED. W. D.]

PHYSICIANS DISPENSING THEIR OWN MEDICINES.

[Editor Western Druggist.]

The subject of physicians dispensing their own medicines has been discussed nearly threadbare in the columns of the WESTERN DRUGGIST, but one phase of the controversy has received too little attention. Many "physicians" do not write prescriptions for fear of displaying their ignorance. In my town several "physicians" send their patients to grocers rather than pharmacists for drugs, warning their patients of the substitution tendencies of the pharmacist, when in reality the pharmacist is honest and competent, but the 'physician" is not. In this State (Ohio) there are more quacks to the square mile than in any other State. Pharmacists can dispense liquor only on the prescription of a reputable physician; yet the law provides no means of determining who is reputable. Legislation in Ohio seems to be entirely in the interest of the "physicians." If a law should be passed requiring the "physicians" to dispense their own prescriptions, so that the public might be enabled to determine whether they are such reputable and skilled practitioners as the liquor law requires, some of the odium now heaped on liquor-selling pharmacists might then be placed on liquor-prescribing "physicians."

UNCLE NED.

"Ergo," remarked the professor to his class, after a long preamble; "Ergo"—then he stopped to take breath. "Well, let ergo," sang out one of the students, and the conclusion was ruined.

Progress of Pharmacy.

THE PREPARATION OF SYRUPS by cold percolation from sugar colored by ultramarine is recommended by A. Thurston (Pharm. Record, p. 250, '86). By employing a cylindrical percolator, and cotton in place of the tin diaphragm, the ultramarine will be fixed upon the layer of cotton, and a clear syrup result.

THE SUPERIOR EFFICACY OF GOA POWDER OVER CHRYSAROBIN has been pointed out by Dr. Chas. Rice (Am. Druggist, p. 121), who suggests that the cause may possibly be due to the fact that in the extraction of the Goa powder with benzol some active principle remains behind. Dr. Lesser, of Leipzig, has found that an amorphous substance, present in the mother liquor after the crystallization of the chrysarobin, is considerably more active than the latter.

THE IDENTITY OF CHELEDONIC ACID WITH JERVIC ACID has been established by Schmidt (Archiv., p. 513, '86), who, after a careful investigation of the two acids and a series of salts, determined the chemical formula to be $C_7H_4O_6+H_2O$, and bibasic in character. Another substance found in very small quantities, termed chelidoninic acid, has been proved by Schmidt to be identical with succinic acid.

CANTHARIDIN is shown by Homolko to form alkaline salts of cantharadic acid by the absorption of a molecule of water. The alkaline salt is best prepared by precipitating the silver salt ($C_{10}H_{12}O_5Ag_2+H_2O$) with bromide of potassium or sodium, the silver salt being prepared by neutralizing an alkaline solution of cantharadin with nitric acid, and precipitating with solution of nitrate of silver.

VANILLIN HAS BEEN PREPARED FROM ASAFŒTIDA by Schmidt (Archiv., p. 434, '86) by shaking an ethereal extract of the gum resin with a strong solution of sodium bisulphite. To the solution sulphuric acid is added in excess, and after the sulphurous acid is expelled the liquid is extracted with ether, which leaves upon evaporation the vanillin in a crude form. Upon purification the vanillin corresponds with that obtained from other sources in all respects.

IN THE PREPARATION OF PEPSIN, Podevyssozki recommends that the hog stomach be allowed to stand some time, but protected from the atmospheric influences before extracted with acidulated water. He states (Arch. der Phys.) that the mucous membrane when fresh contains but little pepsin, and chiefly propepsin, which is soon converted into pepsin.

TWO REACTIONS OF MORPHINE HAVE BEEN DISCOVERED by Donau (Journ. Prakt. Chem.), as follows: (1) To 1 mg. of morphine triturated on porcelain with 8 drops of sulphuric acid a very small piece of potassium arseniate is added. The mixture, heated until acid fumes begin to appear, will exhibit a beautiful violet-blue coloration, passing upon further heating into a dark-brown red. Upon carefully adding a little water, the mixtures assume a reddish color, which upon still further addition of water becomes green. Chloroform, when agitated with the mixture, becomes violet; ether, violet-red, but the mixture itself becomes brown.

(2.) To morphine, treated as before with sulphuric acid, is added a few drops of a solution of potassium chlorate in sulphuric acid (1×50), when upon standing in the cold the mixture assumes a beautiful grass-green coloration, with a slight rose-red tinge at the margins.

ULEXINE IS THE NAME PROPOSED FOR A NEW base discovered by A. W. Gerrard in the seeds of Ulex Europæus, a leguminous shrub, one of the most familiar plants in England, and known as furze, gorse, whin, etc., to the rural population. By extraction with ether 2.1 per cent. of a greenish yellow oil was obtained, and by subsequent extraction with alcohol the seeds yielded 5 per cent. of a brittle greyish-green resin. The liquid obtained by extracting the resin with acidulated water when rendered alkaline by the addition of ammonia and agitated by chloroform yielded the base upon evaporation. Ulexine forms colorless crystals (Pharm. Journ. and Trans., p. 101, '86), possessing a bitter and acrid taste, freely soluble in water, and forming crystalline salts with the acids which show precipitates with caustic potassa and soda, but not with ammonia. Physiologically administered to the lower animals, ulexine causes chronic spasms in frogs. When placed upon the tongue it produces numbness similar to, but less marked, than with cocaine. Whether or not the drug is poisonous remains to be determined by further investigation.

A READY METHOD FOR THE DETECTION OF SALICYLIC ACID in food or drink, based upon its reaction with acidulated methyl when it is converted into ethyl salicylate, easily recognized by the odor of oil of wintergreen, has been proposed by Chas. O. Curtman, With alcoholic liquids 2 C.c. of methyl alcohol is added to 4 C.c. of the liquid to be examined, contained in a test-tube, and then 2 C.c. of sulphuric acid carefully mixed. The mixture is heated for about two minutes, then set aside for eight or ten minutes, and then heated to the boiling point. Salicylic acid present in perceptible quantity will be recognized by the odor of gaultheria; if traces only, it may be necessary that the mixture be set aside and again heated. With solid or semi-solid substances, lard, condensed milk, etc., it is necessary to digest the specimen to be examined for some hours with dilute alcohol, with frequent agitation and filtering. If necessary, the filtrate may be concentrated, and then treated with methyl alcohol and sulphuric acid as above. By this method one-tenth of 1 per cent. salicylic acid may easily be detected. As this quantity represents about seven grains to the pound, a smaller quantity than it is usually employed as a "preservative," salicylated articles may easily be identified by this method.

Berthelot has studied the question of the formation of nitrates in the plants. He found nitrates in a very great number of plants, and believes every plant contains more or less of them. He determined the quantity in mosses, ferns, shave-grasses, monocotyledones and many dicotyledones, and made separate determinations in leaves, stem and root in different periods of development. The quantity varied from 0.1 part to 33.0 parts for 1,000 parts of dry plants. The main quantity was contained in the stem, and the author believes that this organ contains special cells whose function is the oxidation of nitrogenous matter (NH_3, etc.) to nitrates before the formation of albumen can occur.

Botany and Microscopy.

The Scientific American states that corks of good quality may be rendered impervious and nearly proof against acids and other corrosive substances by first soaking them for several hours in a solution composed of glue or gelatin one half ounce, glycerin three-fourths ounce, and water one pint heated to the temperature of about 122° F., afterward thoroughly drying and then soaking them for a few minutes in a melted mixture of four parts of paraffin and one part of vaseline.

Botanists will regret to learn of the death of Dr. William S. Clark, for many years the President of Massachusetts Agricultural College. Dr. Clark was an enthusiastic student of vegetable physiology. He made important studies regarding the expansive force of plant tissues, the circulation of the sap, the rapidity of its movement, etc., and it was he, in conjunction with Dr. S. H. Peabody, now president of the Illinois State University, who put the pumpkin into harness and demonstrated the enormous expansive force of its growth. He also made many other important observations on the growth of plants. He was also an able teacher and an interesting lecturer on botanical and agricultural topics. He was not quite sixty years of age at the time of his death.

Dr. Fritz Müller describes a curious vegetable phenomenon, that of an epiphytic orchid belonging to the genus *Aeranthus*. The plant consists only of heads of small flowers and roots, and yet it assimilates, supporting itself independently by means of the chlorophyll contained in its roots. Numerous instances occur where flattened branches functionally replace leaves, but so far as we know this is the only recorded instance in which roots do the duty of foliage.

It is well known that most deciduous-leaved trees shed their leaves in the autumn by the formation of a clean separatory surface between the base of the petiole and the stem. Previous to this the chlorophyll and nutritious juices have mainly been withdrawn into the stem and roots, and the leaves deprived of their green coloring matter show other colors, shades of yellow, orange and red, the autumn colors, as we call them. By this withdrawal of the nutritive matters, exhaustive waste is avoided, and the tree passes to its winter sleep with its vitality unimpaired and is able consequently to begin a vigorous growth at the awakening of the spring. Doubtless, by natural selection, as the changes of seasons have, in the progress of geologic time, become more decided, our northern trees have gradually acquired this economic habit, as they have acquired others which were to their advantage. It is hardly to be supposed that in the struggle of existence which resulted in this regular shedding of the leaf and its separation from the stem by a clean scar, all trees would have reached the same results by precisely the same means. In fact this is found not to be the case. Herr L. Staby, who has given the matter attention, finds that there are considerable differences, particularly in the mode of healing up the wound after the leaf has fallen. One mode is by the formation of a periderm or corky layer over the surface which effectually prevents the exudation of nutritious juices and another common way is by the exudation of a little gum which soon hardens and effectually plugs the vessels. Even where the leaf does not separate by a clean separatory plane, in plants that is, that are not deciduous-leaved, there appears to be, in many cases at least, provision against the wastage of sap. In tree-ferns, for instance, the surface of the wound rapidly dries and so prevents, though less effectually, the escape of the sap, and in orchids the same object is accomplished by the formation of reticulated cells at the surface.

An interesting series of experiments have recently been tried with the view of ascertaining the proportion of carbon dioxide in the air most favorable to assimilation. This is found to be between 1 and 10 per cent. It is found also that assimilation takes place most rapidly when the atmosphere is nearly saturated with moisture, and that when the air is very dry the process is almost completely suspended, even though the carbon dioxide be present in the most favorable proportions.

It has usually been maintained by botanists that the heart-wood or duramen of trees is practically dead matter and has little if any part to play in vital processes of the plant, but some have doubted this and maintained that it has much to do at least with the circulation of the sap. Experiments, therefore, have recently been conducted by Herr Rohrbach with the view of determining what are the facts in the case. These experiments confirm the prevalent view and he concludes that duramen has little power of conducting sap, and that the chief seat of the conduction is in the sap-wood.

Since it has been proved that fermentation is in a large number of cases either the indirect or direct result of bacteria and other micro-organisms, a natural conclusion which some have reached is that diastase, the ferment found in germinating seeds, is also the product of the growth of bacteria. To test the truth of this conclusion, M. Laurent instituted a series of experiments, the results of which have more than ordinary interest. Entire seeds of Indian corn, barley, sunflower and other plants were freed from bacteria by washing them with solution of mercuric chloride and were then caused to germinate in Koch's nutrient gelatin and other sterilized media. As a result most of the cultures were entirely free from bacteria and yet diastase was found present as usual in the germinating seeds. The conclusion therefore is that the fermentive changes which take place in germinating seeds are not at all due to bacteria, but are the result of the vital activity of the cells.

A French scientist, M. Leclerc du Sablon, has recently announced some observations which he seems to suppose are new, on the dissemination of the spores of the Polypodiaceae. He says the dehiscence of the sporangium commences at the spot where the annulus ceases, that this latter gradually straightens out and then curves in the opposite direction. The spores remain attached to the annulus, and are detached and thrown to a distance by its sudden return to its original position. To the knowledge of the writer the same observation was made not less than six years ago by the late Prof. H. H. Babcock of this city, who if our memory serves us right, wrote a communication on the subject at the time to Prof. Asa Gray. The

fact has frequently been noted that American botanists often "discover" facts already observed by European botanists, but occasionally, it seems, Europeans return the compliment.

One of the ghosts that will not down in science is the theory of the animal nature of diatoms. It has been "settled" again and again that diatoms are plants, but no sooner is it thoroughly settled than some eminent man announces his firm belief that they are animals. This time it is Dr. G. W. Royston Pigott, who says: "For my own part, considering their peculiar power of movement and sustentation, and also of conjugation, as well as their unaccountable strength of movement, I do not doubt that diatoms are living animals."

M. Laurent has been studying the fermentation which takes place in the rising of bread and he claims to have found that yeast is not the principal agent in the process as has been supposed, but that the chief agent is a microbe which he names Bacillus panificans. He finds that these organisms develop best at a temperature between 90° and 95° F., that they are killed by an exposure of ten minutes to a temperature of 212° F., that in a medium which is not too acid they developed at the expense of cooked starch, that they render gluten paste more soluble, and that they are not destroyed in the stomach. He believes also that they contribute greatly to the process of digestion. The rising of bread, he claims, is due chiefly to the carbon dioxide which these organisms disengage.

We believe it will be doing a service to pharmacy to call attention to the fact that a really efficient compound microscope may now be had at a cost considerably less than it has been possible to obtain one heretofore. The Chicago College of Pharmacy has recently imported twenty additional instruments from E. Leitz, Wetzlar, Saxony, which we have carefully examined. They are really efficient, honestly made instruments, capable we believe of answering all the ordinary needs of the pharmacist, and the price for which they may be had at retail, $25, seems to us as low as is possible to produce a really good instrument. The stand is of course very simple, but firm and well made. It has a plain brass stage with spring clips, a straight or unjointed back, a horse-shoe base, a good fine adjustment, a concave mirror, adjustable in two planes, one eye-piece and two objectives, one of the latter about equivalent to a two-thirds, and the other to a one-fifth, giving a range of magnifying powers of from about 50 to about 400 diameters. The objectives are of better quality than those ordinarily sold in the student series, the higher power easily resolving Pleurosigma angulatum by central light. The instruments are not now for sale in this city, or so far as we know in this country, but some of our enterprising opticians will probably soon keep them in stock.

Dr. G. Martinotti has been experimenting with chrome alum as a substitute for ordinary alum in the preparation of alum-carmine staining fluids and he speaks with enthusiasm of a fluid prepared like Grenacher's save that chrome alum takes the place of ordinary alum in the preparation. The preparation is as follows:—Dissolve in 100 cc. of distilled water .5 to 1g. of powdered carmine of best quality and from 1 to 5g. of pure chrome alum. The mixture should be left in an oven at a temperature of about 70° C. for from 24 to 48 hours and then removed and after it is cold, filtered. The color of the liquid is violet and its stains nuclei perfectly. If it is desired to preserve the pecimens in balsam of fir or other resinous media, they should be washed carefully in water before transferring to the anhydrating fluid, otherwise precipitation of minute crystals of the chrome-alum will occur.

Mr. L. B. Hall recommends the following process of mounting fresh water algae: They are first immersed in a dilute solution of iodine made by pouring two minims of the tincture into an ounce of water. This is for the purpose of destroying the vitality of the cells so that they may be stained. They are then stained with iodine green and afterward transferred to dilute glycerin and then gradually transferred to thick glycerin. The great difficulty in this process is to secure the cover glass so that the glycerin will not leak. Perhaps the best method is to make the first ring of dammar and after this is thoroughly dry, the subsequent ones with a good quality of white zinc cement.

SACCHARIN-SALTS OF THE ALKALOIDS have been patented, it is said, by Fahlberg and List. The saccharin solution is neutralized with the alkaloidal base and the salt produced is said to have a sweet taste. What next may we expect from the omni-generic phenol?

THE CAUSE OF THE DECOMPOSITION OF CHLORAL HYDRATE "in flakes" has been investigated by Guerin (Arch. d. Pharm.), who found water present in the crystal masses. By testing a solution of this chloral with barium carbonate both barium formiate and chloride were found. The decomposition is therefore due to the formation of chlorin by the action of the inclosed water; chloral in regular rhombohedral crystals showed no such decomposition.

TO CLARIFY ALCOHOLIC LIQUIDS, Dieterich (Pharm. Central) recommends the following: Two parts each of albumen and milk-sugar, and one part of starch. Five grams of this powder is added to each liter (35 grains to 1 pint) of liquid, repeatedly agitated, then allowed to settle in a cool place for several days, and finally decanted and filtered. [Instead of dried egg-albumen liquid egg-white may be used in about four times the quantity as above.—ED. W. D.]

OINTMENT OF CHRYSAROBIN (according to Monatsch f. Dermatol.) is recommended to be prepared as follows: Chrysarobin 2½ grains are dissolved in 5 minims benzin and incorporated with simple cerate sufficient to make 500 grains (or 1 Troy ounce). Owing to the solution of the chrysarobin in the benzin this ointment is said to be much more effective than the ointment as ordinarily prepared.

Ointments of the narcotic extracts with lanolin as a vehicle, according to a Russian physician, are absorbed, and exercise the pain-relieving power with great certainty. The quantity of drug required to produce the desired effect is only about twice that necessary when administered internally. Quinine hydrochlorate is very easily absorbed and potassium iodide when administered by inunction from an ointment prepared with lanolin, appears in the urine in the course of a few hours. Lanolin ointments, it has been found (British Med. Journal), are also more easily absorbed when applied to children than in adults. Its action may be facilitated by washing the skin with ether previous to the application.

Societies and Colleges.

FACULTIES OF COLLEGES OF PHARMACY.

For particulars as to the course, terms, etc., at any of the colleges it is sufficient simply to address "..... College of Pharmacy' at the point named.

Name of College.	Materia Medica and Botany.	Chemistry and Analytical Chemistry.	Pharmacy and Practical Pharmacy.	Fall Term Begins.
Albany	A. B. Huested, M. D.	Willis G Tucker, M. D. Ph. G.	Gustavus Michaelis, Ph. G.	Oct. 4.
Buffalo	E. V. Stoddard, A. M. M. D. / D. S. Kellicott, Ph.D.F.R.M.S.	R. A. Witthaus, A. M. M. D. / F. P. Vandenberg	Willis G. Gregory, M.D.	September.
California (at San Francisco)	Fred Grazer, Ph. G. / H. H. Behr, M. D	W. T. Wenzell, M. D. Ph. G.	E. W. Runyon, Ph. G.	April, '87.
Chicago	E. S. Bastin, A. M. /	H. D. Garrison, M. D. / W. Galloway, Ph. G.	N. Gray Bartlett, Ph. D. / E. B. Stuart, Ph. G.	Oct 1.
Cincinnati	Virgil Coblentz, Ph. G.	J. F. Judge, M. D.	J. U. Lloyd, Ph. G.	Oct. 6.
Cleveland				
Illinois (at Chicago)	W. Kerr Higley, Ph. C.	John H. Long, Sc. D.	Oscar Oldberg, Ph. D.	Oct. 1.
Louisville	Edw. Goebel, Ph. G.	L. D. Kastentein, Ph. D.	B. Buckle, Ph. G.	
Maryland (at Baltimore)	J. F. Moore, M. D. Ph. G. / D. M. R. Culbreth, A.M.Ph.G.	Wm. Simon, Ph.D., M. D.	Charles Caspari, Ph.G.	
Massachusetts (at Boston)	Wm. P. Bolles, M. D. / Chas. P. Pengra, Ph C., M. D	G. F. H. Markoe, Ph. G. / J. W. Baird, A.M., Ph.C.	Edgar L. Patch, Ph.G	Oct. 4.
National (at Washington, D.C)	S. Waggaman, M. D.	Edward Whitfield / J. R. Walton, M. D.	H. E. Kalusowski, Ph. D.	
New York	Walter De F. Day, M. D. / Jos. Schrenk, A.M.	Chas. F. Chandler, Ph. D. / O. W. Parsons, Ph C.	P. W. Bedford, Ph. G. / Chas. S. Heebner. Ph.G.	Sept. 27.
Philadelphia	John M. Maisch, Ph. D / C. B. Lowe, Ph. G.	S. P. Sadtler, Ph.D. / Henry Trimble, Ph.G.	Jos. P. Remington, Ph. G. / Jos. W. England, Ph. G.	Oct. 1.
Pittsburg	G. W. Allyn, A M., M. D.	Hugo Blanck, Ph. D.	S. Henry Stevens, M. D.	
St. Louis	Otto A. Wall, M. D. Ph. G. / H. M. Whelpley, Ph. G.	Chas. O. Curtman, Ph. G.	Jas. M. Good, Ph. G. / Francis Hemm, Ph. G.	Oct. 11.
State University Departments.				
Indiana (at Lafayette)		R. B. Warder, Ph. G.	J. N. Hurty, Ph. G.	
Iowa (Iowa City)	C. M. Hobby, M. D.		Emil L. Boerner, Ph.G.	
Kansas (Lawrence)	F. H. Snow	E. H. S. Bailey	L. E. Sayre, Ph. G.	
Louisiana (New Orleans)				
Michigan (Ann Arbor)	Victor C. Vaughan, Ph.D. M.D. / Volney M. Spalding, A. B.	T. J. Wrampelmeier, A.B., Ph.C	A. B. Prescott, M. D., Ph. D.	October.
Wisconsin (Madison)	F. B. Power, Ph. D. / A. B Seymour, B.S.	Wm. W. Daniells, M.S. / Homer W. Hillyer, Ph. D.	F. B. Power, Ph. D.	Sept. 8.

BULLETIN OF PHARMACEUTICAL ASSOCIATIONS.

For information upon any subject relating to the affairs of any Association, address the Secretary. For information regarding commercial exhibits, address the Local Secretary at the postoffice designated as the place of meeting. Blanks in the table will be filled out on receipt of the required information, which we shall be pleased to receive from the Secretary or other officer.

Ph. Association.	President.	Secretary.	Treasurer.	Place and Time of Meeting.	Local Secretary.
Am. Phar. Asso.	C. A. Tufts, Dover, N. H.	J. M. Maisch, Philadelphia	S. A. D. Shepard, Boston, Mass.	Cincinnati. Sept.	
N. R. D. A.	A. H. Hollister, Madison.	L. E. Nicot, New York.	F. H. Masi, Norfolk, Va.	Cincinnati Sept.	
N. W. D. A.	M. N. Kline, Philadelphia.	A. M. Merriam, Minneapolis, Minn.	S. M. Strong, Cleveland, O.	'Minneapolis. St. Paul," Sept. 21	
State Associations.					
Alabama	A. L. Stollenwerck, Birmingham.	P. C. Candidus, Mobile.	E. P. Galt, Selma	Mobile, May 10, 1887.	W. F. Prince.
Arkansas	Dr. McDaniel, Arkadelphia	J. R. Colburn, Little Rock.	E. P. Schaefer, Little Rock		
California	W. Searby, San Francisco.	Chas. F. Troppman, San. F			
Connecticut	F. M. Wilson, Willimantic.	F. Wilcox, Waterbury	G. P. Chandler, Hartford	Meriden, 1887	J. H. Parker.
Delaware					
Florida					
Georgia	J. W. Stanford, Cuthbert.	H. R. Slack, Atlanta.	T. L. Massenburg, Macon.	Cumberl'd Isl'd, Apr. 12	
Illinois	B. F. Gardner, Atlanta	L. C. Hogan, Englewood.	G. H. Sohrbeck, Moline.	Decatur	W. C. Armstr'ng
Indiana	Leo Eliel, South Bend	F. Hereth, Indianapolis.	J. N. Hurty, Indianapolis.	Richmond.	
Iowa	A. H. Miles, Des Moines.	R. M. Upson, Marshalltown	C H. Ward, Des Moines.	Waterloo, May, 1887.	R. Ross.
Kansas	W. C. Sears, Burlington.	J. T. Moore, Lawrence.	C. D. Barnes, Abilene.	Wichita.	C. D. Wangler.
Kentucky	J. W. Fowler, Louisville.	W. B. McRoberts, Stanford	J. J. Brooks.	Louisville, May 18, 1887	J. P. Allen.
Louisiana	O. Robin, New Orleans.	L. F. Challin, N. Orleans.	J. B. Lavigne, New Orleans	New Orleans, April, '87	
Maine.					
Massachusetts	Henry Canning, Boston.	J. W. Colcord, Lynn.	F. H. Butler, Lowell.	Holyoke, June 7, 1887.	C. E. Bardwell,
Maryland	A. J. Corning, Baltimore.	M. L. Byers, Hagerstown.	S. Mansfield, Baltimore.	Ocean City, June 21, '87	
Michigan	H. J. Brown, Ann Arbor.	S. E. Parkhill, Owosso.	W. Dupont, Detroit.	Grand Rapids, Oct. 12 '86	W. L. White.
Minnesota	J. R. Jones, Mankato.	E. F. Allen, Minneapolis.	J. C. Henning, Stillwater.	New Ulm, 1887.	
Mississippi	Byron Kemly, Jackson.	H. F. West, Natchez.	J. B. Dudley, Utica.	Jackson, May 17 1887.	
Missouri	H. A. Caffee, Carthage.	G. H. C. Klie, St. Louis.	J. M. Good, St. Louis.	Sweet Springs, June 15.	
Nebraska	J. H. Reed, Nebraska City	C. J. Daubach, Omaha.	J. Forsyth, Lincoln.	Omaha, May 10, 1887.	N. A. Kuhn.
New Hampshire	M.S.Woodman, W.Lebanon	G. F. Underhill, Concord.		—— Oct., 1886.	
New Jersey	F. B Kilmer, N. Brunsw'k	R. H. Van Sant, Trenton.	Wm. Rust, New Brunswick	Paterson, May 18, 1887.	
New York	C. Z. Otis, Binghamton	C. W. Holmes, Elmira.	C. H. Butler, Oswego.	Thousand Islands Park	
North Carolina	A. W. Rowland, Wilson.	J. C. Munds, Statesville.	A. S. Lee, Raleigh	Asheville, Aug. 12, 1887.	B. E. Ledberry.
Ohio	V. Coblentz, Springfield.	L. C. Hopp, Cleveland	C. Huston, Columbus.	Akron, June 8, 1887.	
Pennsylvania	J. A. Meyers, Columbia.	J. A. Miller, Harrisburg.	J. L. Lemberger, Lebanon.	Philadelphia, June 14.	
Rhode Island					
South Carolina		P. Wineman, Summerville.		Charleston, Nov., 1886	
Tennessee	G. W. Albers, Knoxville.	J. G. Rawlings, Chatta'ga.	J. G. Rawlings.	Cleveland, Oct, 1887.	
Texas	G. H. Rice, Boudera.	W. L. Tucker, Waco.	E. W. Lancaster, Marshall	Fort Worth, May 10, '87	
Vermont					
Virginia	Hugh Blair, Richmond.	E. R. Beckwith, Petersburg	F. H. Masi, Norfolk.	Richmond, May 9, '87.	
West Virginia		C. Moenkemeller, Wheeling.			
Wisconsin	F. M. Givens, Fond du Lac	E. B. Helmstreet, Janesv'e.	W. P. Clark, Milton.	Milwaukee, Aug. 9.	

TENNESSEE PHARMACEUTICAL ASSOCIATION.

The pharmacists of Tennessee met in Watkins Institute, Nashville, August 10, to form a State Druggists' Association. The immediate object was to take action against the threatened collection of an enormous accumulation of taxes under a law passed in 1882 with reference to sales of liquors, but which had been dormant until now because of its manifest injustice and questionable application to druggists. The meeting was called to order by S. Sloan, of Chattanooga, who nominated Dr. Black, of Chattanooga, for temporary chairman. Dr. J. L. Thompson was chosen temporary secretary. The chairman stated the object of the meeting, after which, on motion of Dr. J. S. Cain, a Committee on Credentials, consisting of Dr. Cain, of Nashville; Dr. J. S. Rawlings, of Chattanooga; Dr. Goodyear, of Memphis; Dr. McCampbell, of Knoxville; Trevathan, of Paris, was appointed.

The following Committee on Permanent Organization was appointed: Messrs. Sloan, of Chattanooga; Moville of Nashville; Miller, of Memphis; Wendell, of Murfreesboro, and Reynolds, of Clarksville.

Dr. Nicklin, of Chattanooga; Messrs. Gordon, of Nashville, and McKinney, of Ripley, were appointed a Committee on By-Laws.

Messrs. E. A. Pope, of Pulaski; W. W. Berry, of Nashville, and J. I. Robinson, of Memphis, were appointed a Committee on Resolutions.

The Association then adjourned until 2 P. M.

AFTERNOON SESSION.

After the meeting had been called to order the following officers were elected:

President, Mr. Gordon, Nashville; First Vice-President, W. T. Scruggs, Memphis; Second Vice-President, Dr McCampbell, Knoxville; Secretary, J. F. Lellyet; Treasurer, E. L. Laurent, Nashville.

Mr. Lellyet, of Nashville, then delivered an address of welcome. As a representative of the Nashville Association he was proud and happy to welcome the Association, The profession was becoming active and progressive. No one deserved more honor and received more homage than the conscientious pharmacist. His constituents were of all classes; learned and ignorant, rich and poor, noble and debased, were all indebted to scientific pharmacy. Hitherto convocations of lawyers, with no interests save the constituents whose rights are weighed in the sensitive political scale, had met again and again in complete organization. Physicians had molded by convention the intricacies of the pathological school into harmonious creeds. Statesmen had convened amidst the plaudits of a joyous people, and adjourned often amidst their tears. Yet this profession, with its manifold interests, composed of more prosperous citizens than any other profession, was just about to hold its first State convention. While the prosperity of the pharmacist was the result of minding his own business, still this was not all his duty. The conservative and prosperous, if not alert, become victims to the wiles of the trickster or the ignorance of the trustworthy. There must be safeguards about interests so important. Establish rules requiring and elevating the standard of scholarship and quacks would flee investigation like lepers of old. There were in Tennessee 1,200 or 1,400 pharmacists, representing a capital of $5,000,000 to $6,000,000, an average about $5,000 each. An immense interest to be legislated for and controlled by machines and political engines lubricated only by the elect, to whom politics are a support and legislation a harvest. The absorption of the pharmacist in his own business had enabled these politicians, through defective or malicious legislation, to place upon the statute books acts so unjust that, if executed, thousands of law-abiding pharmacists would be plunged into bankruptcy. The wave of prohibition was angrily surging upon the shores; its inoculating sprays affect new converts with each ebb and flow of the tide, and the liquor dealer, frenzied and desperate, was turning upon the pharmacist with jealous rage. The profession should, by legislation, force its perpetual separation in the minds of the people from the baser influences and noxious principles of tippling quacks. It was not right legislators should sit in judgment upon the profession, and without evidence, except that of the envious and vicious, decree them tipplers and tax them accordingly. Action was needed which would free the profession from tyrannical taxation.

Mr. Sloan responded for the Association, saying that legislation had not been granted because it had not been demanded. This would be one of the grandest days in the history of Tennessee pharmacy.

Dr. Rawlings, of Chattanooga, introduced President Gordon to the Association, after which the Committee on Credentials reported the following as members:

J. C. Wharton, R. H. Gordon, W. W. Berry, J. O. Burge, J. T. Lellyett, Nashville; W. W. Robinson, Bloomington; J. R. Barlow, Savannah; J. N. McKenzie, Lebanon; J. B. Murry, C. A. McArthur, H. F. Pendleton, E. L. Laurent, Nashville; J. M. Holladay, Chaseville; E. M. Dance, Nashville; J. T. Merchant, Murfreesboro; L. Rascoe, E. E. Goodlett, Nashville; G. A. Pope, Pulaski; A. B. Gilliland, R. A. Sloan, Chattanooga; H. M. Grigsby, H. Arrowsmith, Pulaski; T. A. Bullington, R. H. Page, Nashville; Dr. J. A. Priets, Woodsonville; W. H. Johnson, Nashville; T. B. Burns, E. L. Beech, Franklin; C. M. McKinney, Ripley, J. T. Rogers, J. F. Johnson, J. G. Brown, Cleveland; C. F. Phillips, Hollow Rock; S. L. Demoville, Nashville; Wm. Wendel, Murfreesboro; John M. Millen, Memphis; N. N. Warlick, Jonesboro; J. S. Robinson, W. T. Scruggs, Memphis; S. B. Reynolds, Clarksville; J. S. Jenkins, Nashville; J. C. Thredgill, Huntingdon; W. G. Trent, Martin; J. H. Russell, Centreville; S. M. Anderson, Lebanon; Wm. White, Franklin; Dr. R. L. Eves, Nashville; J. R. Westbrook, M. A. Newbern; M. Black, Chattanooga; J. A. McCampbell, Knoxville; Dr. J. S. Cain, J. L. Thompson, W. H. Owen, Nashville; W. T. Hayes, Calhoun; H. P. Keeble, Jr., Murfreesboro; R. S. McClaron, Jackson; R. E. Page, Nashville; John F. Whitson, Nashville; D. F. Goodyear, Memphis; M. H. Trevethan, Paris; Dr. J. W. McDuffy, Friendship; J. G. Clay, Thompson Station; J. C. Moody, Athens, Tenn.; John B. Macklin, Chattanooga; John A. Demoville, Nashville; J. F. Henslee, Dixon; T. B. Burns, Franklin; T. C. Black, Lewisburg; H. C. Johnson, Tracy City; Dr. S. E. H. Dance, Lynchburg; G. G. Phillips, Winchester; G. C. Bass, Decherd; J. E. Patton, Springfield; W. A. Miles, Fayetteville; John M. Hutchins, Winchester; J. H. Johnson, Nashville; A. B. Hodges, Nashville; W. A Gill, Fayetteville; E. S. Hough, Manchester; J. R. Robertson, Nashville; L. M. Hines, Cowan; L. C. Bass, Decherd; G. M. Walker, Athens; J. Bloomstein and Max Bloomstein, Nashville.

The Committee on Constitution and Bylaws then made its report which was on motion adopted. The convention then resolved itself into the Tennessee Druggists' Association. Fraternal greetings were exchanged with the Memphis Druggist's Exchange, Nashville, and the second Wednesday in May, 1887, was selected as the place and time of the next meeting. A somewhat informal discussion of plans of action to secure needed legislation consumed the rest of the afternoon.

NIGHT SESSION.

The Committee on Permanent Organization reported a petition drawn up for signature by the pharmacists of the State, setting forth the objects of the Association as well as a circular letter demanding action and requesting co-operation. After certain modifications suggested by Col. Col-

yar, the report was adopted. The following committees were then appointed:

Committee on Legislation, Messrs. Cain, Nashville; J. L. Robinson, Memphis, and A. J. Albers, Knoxville; Committee on Trade Interests, W. W. Berry, Nashville; M. Black, Chattanooga, and B. H. Owon, Clarksville.

Resolutions were then submitted by Drs. Cain and Grigsby and unanimously adopted to the effect that it was obviously not the intent of the Act of 1882, to oppress legitimate pharmacists, and that the recent legal decisions based on this act of 1882, tending to oppress pharmacists, were foreign to its spirit and opposed to public opinion. That the pharmacists in dispensing liquors did not conflict with the interests of the liquor-dealers or the principles of the prohibitionists. The legislature should therefore so amend the law as to permit the reputable pharmacists of the State to use alcohol and alcoholic liquors in compounding and manufacturing medicines, perfumeries and domestic articles without restriction, and to sell the same for medical, mechanical, and domestic purposes, under such restrictions and safeguards as would prevent possible abuse of the privilege so granted. It should also pass a relief act for the benefit of pharmacists affected by the exactions of the 1882 law in consequence of dispensing alcohol for legitimate professional purposes.

On motion of Dr. Black it was resolved that the Association discountenance the selling of alcoholic stimulants by druggists for other than medicinal purposes, and do not consider any druggist in good standing in the profession who is guilty of such practice. The Association then adjourned.

ADDRESS OF PRESIDENT F. F. PRENTICE, OF THE WISCONSIN PHARMACEUTICAL ASSOCIATION.

We append the following abstract, unavoidably omitted from our report last month, of the Wisconsin meeting:

Six years ago, said President Prentice, the Association had been formed, numbering then but seventy-five members. The present membership was 346, but over 800 pharmacists in the State were still unconnected with the Association. Renewed efforts by the members were therefore necessary.

The Board of Pharmacy should receive the hearty support of the Association. The number of nominations by the Association should be so increased as to enable the Association to send to the Governor representatives from each Congressional district, so that all parts of the State should be represented. The pharmacist should be legally exempt from jury duty. The Wisconsin School of Pharmacy was maintained on a high plane. The course of lectures mailed to subscribers by the National Institute of Pharmacy was of great service to those unable to attend the School of Pharmacy. Similar systems had been very successful in England, and had been found of great value to pharmacists in business who were debarred from the advantages of a regular School of Pharmacy.

If the Association decided to indorse the proposed plan of reorganization of the N. R. D. A. it would be perhaps best to make the President the representative of the Association, with power to select two associates and, if necessary, a substitute; the expenses of the representative only to be paid by the Association.

The "Committee on the Revision of the United States Pharmacopœia" would have very important duties, requiring time, study, and practical laboratory work; the Wisconsin representatives should, therefore, be appointed at once.

A committee of three, to be known as the "Committee on Unofficinal Formulæ and the United States Pharmacopœia," should be appointed to represent the Association on the Revision Committee and on the "National Formulary" work of the A. P. A. The Wisconsin Medical Association had appointed delegates to this Association, and the courtesy should be returned. The interchange of delegates between the different State associations produced very desirable results. The Fond du Lac pharmacists were evidently prepared to give the Association a cordial welcome.

The committee to which the President's address was referred reported that in their judgment the proposed district representation on the State Board of Pharmacy was not practicable, nor was a recognition of the district principle entirely desirable. Competent men should be secured independent of locality. Pharmacists should be legally entitled to claim exemption from jury, and the Committee on Legislation should be given power to act on this question. The retiring President should be chosen a representative of the Association to the N. R. D. A. and A. P. A., with power to choose his associates. The amount appropriated for his expenses by the Association should not exceed $50. The choice of a Committee on Pharmacopœial Revision and Unofficinal Formulas should receive immediate attention. The courtesies extended by other associations should be reciprocated. Delegates should be appointed to the State Medical Society and the neighboring State pharmaceutical associations. The report was adopted.

NORTH CAROLINA PHARMACEUTICAL ASSOCIATION.

The seventh annual session of the Association was held in Library Association Hall, Fayetteville, N. C. The Association was called to order by President H. R. Horne, and after prayer by the Rev. Mr. Jamison, Dr. J. H. Hodges delivered the address of welcome. He called attention to the advances which had been made in pharmacy. By the aid of test-tube and spirit-lamp wonders had been accomplished of which Orfila had not dreamed. Medicines had been grouped, insolubles classified, and incompatibles discovered. Without the rewards which were reaped by medicine and surgery, pharmacy had rendered almost equal services to the race. Medicine and pharmacy had intimate relationships, and the confidence between the two professions should be increased. He was proud to do the pharmaceutical profession honor because of the services it had rendered mankind. He welcomed them to a region fraught with historical memories dear to every American. The first Declaration of American Independence had been drawn up in this vicinity. The other revolutionary associations were as numerous and as interesting. The vicinity was not destitute of other attractions. Its vineyards rivaled those of Europe. In conclusion he said: "I express, on behalf of the Fayetteville pharmacists, their supreme gratification at your presence here today, and their most earnest regrets that so few of your number, through an unfortunate mistake, have been permitted to enjoy the social pleasures of this anniversary reunion. But be that as it may, be ye from the cloud-capped mountains of the West or from the ocean-washed shores of the East, be your mission pleasure or profit, still, in their name, we bid you welcome. Welcome to our hearts and homes, welcome to our joys and pleasures, doubly welcome to all the varied beauty and enchanting scenery of this, our lovely Eastern city, where her fair daughters are always fairest in their lovely beauty, and her gallant sons always warmest in their generous hospitality."

Mr. A. W. Rowland, of Wilson, on behalf of the Asso-

ciation, thanked Dr. Hodges for his cordial greeting, and in concluding his remarks said: "While these annual meetings have for their object the advancement of the science of pharmacy and the interchange of thought, arising from personal experience and observation, for the furtherance of an object, the benefits of which, almost without exception, accrue to every human being at some period of life, they are also seasons of rest and respite from the confining responsible duties of the prescription case. Among all the professions and avocations of life there are few, indeed, that demand so imperatively one's presence and undivided attention, for truly the motto of the pharmacist is 'Eternal Vigilance.'"

Six candidates for membership reported by the Executive Committee were then elected; and, on motion, the privileges of the floor were granted the medical profession and the press.

President Horne then delivered his annual address. He said that by accident, rather than design, the Association had met for the first time upon the anniversary of its organization. This coincidence was a favorable omen for the meeting, and a stimulant to extraordinary zeal on the part of the members present. Just six years ago the Association was organized. In so doing a great work was accomplished for North Carolina pharmacy, and a still greater and more important service rendered to the general public. Fresh interest was aroused in the science of pharmacy. Pharmaceutical talent was organized and developed, pharmaceutical information diffused, and the public measurably protected against fraud, ignorance and inefficiency. Various State Legislatures had passed laws prescribing wrappers and labels for morphine and its salts: Florida a red or scarlet wrapper; Georgia a scarlet label with white letters and scarlet wrapper; Kentucky a scarlet wrapper, scarlet label with white letters, and skull and cross-bones. Other States had adopted similar laws. The 1881 North Carolina pharmacy act required a label with name of the article, the word "Poison," a skull and cross-bones, vignette, and the name and place of the seller. A very slight amendment to this act, regulating the color of the wrapper, label and letters, would make it conform to the most exacting laws cited. There was no necessity for a change in the North Carolina law prior to the passage of these acts by other States, since it already covered the ground satisfactorily. The value and importance of these safeguards were overrated. Nothing can supply the place of intelligent care, accompanied by a conscientious feeling of responsibility, in the dispensing of poisonous drugs. The best safeguard lay in restricting the business to competent and reliable persons. Inasmuch as manufacturers and dealers adopted labels adapted to these laws, and it was desirable that these peculiarities should become general throughout the country, the Committee on Legislation should be instructed to procure the adoption of such an amendment to the pharmacy act. An amendment should be made to the by-laws providing for a Committee on Legislation, and constituting the Board of Pharmacy, *ex-officio*, such committee. Much was yet to be accomplished through legislation. The strong and earnest efforts made at the last session of the Legislature to amend that part of the pharmacy act which excepts regular practicing physicians from its provisions should be persistently renewed when opportunity offered. This feature of the law was liable to great and constant abuse. The object of the act being mainly to protect the public by requiring certain qualifications of those engaged in the drug business. Consistency and the public safety require that there should be no exceptions made in favor of any class or profession, but that all who assume the functions and responsibilities of pharmacy should be alike subject to legal tests and restraints. The North Carolina pharmacists should unite with other pharmacists to procure an abatement of the tax on alcohol used in medicine, in the arts, and for manufacturing purposes. The by-laws should provide for a Committee on Trade Interests. The most prosperous State Association found such a committee necessary. Prosperity, as a rule, was indispensable to the elevation and development of a scientific pursuit. It requires almost superhuman ability to give wide-awake attention to correct pharmaceutical literature—to formulas, methods and processes—and to originate or devise when the struggle for subsistence is of doubtful termination, and gloomy forebodings harass the mind. Accomplished pharmacists were quitting the business for more remunerative pursuits. Indeed, there was widespread apprehension as to the future of pharmacy in this country. The profession was overcrowded. Colleges of pharmacy were flooding the country with graduates. It was to be hoped that North Carolina would continue free from the practice of "cutting" prices. A Committee on Prescription Prices should be appointed. The pharmacy act had been rigidly enforced. More local associations should be organized. The Association should appoint a permanent Committee on Time and Place of Next Meeting. A delegate should be appointed to the N. R. D. A. The Secretary and Treasurer had performed their work well. This address was referred, on motion, to a committee of five.

The Secretary's and Treasurer's reports were then read and referred to an auditing committee of three, after which the Association adjourned to 8 P. M.

After the Association had been called to order in the afternoon, Messrs. Lee, Bradford and Croon were appointed a Committee on Exhibits. Greetings were exchanged with the Wisconsin Pharmaceutical Association. The Auditing Committee reported that the books of the Secretary and Treasurer had been audited and found correct. The report of the Board of Pharmacy was then read and referred to a committee consisting of Messrs. Stedman Lee and Croon. The report of the Executive Committee was then read.

Mr. E. M. Nadal then read a paper on "Elixir Pyrophosphate Iron, Quinine and Strychnine" [published elsewhere], and Mr. D. S. Carraway read a paper on "Fowler's Solution."

Messrs A. W. Rowland, H. R. Horne, F. W. Hancock, E. V. Loeller and T. C. Smith were chosen as candidates for the next vacancy in the Board of Pharmacy. The Committee on Time and Place of Next Meeting reported in favor of Asheville, and the first Wednesday in August, 1887. The report was adopted.

Messrs. J. R. Williams, J. S. Pescud and J. Y. McRae were then appointed a Committee on Legislation, which was instructed to secure for the Association the right to elect members of the Board of Pharmacy.

The Association then adjourned till 10 A. M.

At the opening of the morning session next day the North Carolina Congressional representation was, on motion, requested to secure the repeal of the tax on alcohol used in the arts, and also the abolition of the license tax on wholesale and retail druggists.

The Committee on Exhibits read its report, which was ordered printed.

On motion of Mr. Hancock, the Committee on Legislation was requested to secure the payment of the receipts of the Board of Pharmacy to the Treasurer of the Association; all moneys to be expended by him on the order of the President.

The following officers were then elected for the ensuing year:

President, A. W. Rowland, Wilson; First Vice-President, F. W. Hancock, Newbern; Second Vice-President, B. E. Seelberry, Fayetteville; Third Vice-President, J. D. Croom, Shoe-Heel; Secretary, James C. Munds, Statesville; Local Secretary, W. C. Carmichael, Asheville; Treasurer, A. S. Lee, Raleigh; Executive Committee, J. Y. McRae, Raleigh; J. L. Prior, Fayetteville; E. V. Zoeller, Tarboro; F. O. Hawley, Polkton; E. B. McDuffy, Concord; A. G. Grimes, Thomasville.

President Rowland then appointed the following committees and delegates:

Business Committee—C. W. De Vault, Asheville; G. H. Sadalson, Manley; H. M. McDonald, Lagrange.

Committee on Papers and Queries.—E. V. Zoeller, Tarboro; E. M. Nadal, Wilson; W. H. Green, Wilmington.

Delegates to the A. P. A. and N. R. D. A.—H. R. Horne, Fayetteville. To the Tennessee Pharmaceutical Association, C. W. De Vault, H. P. Watson and N. R. Tunstall. To South Carolina Pharmaceutical Association, L. R. Wreston, T. F. Klentz and H. L. Fentress. To the Virginia Pharmaceutical Association, B. T. Simmons, R. F. Dalton and H. C. Shannon.

The Association endorsed the proposed plan of reorganization of the N. R. D. A., and agreed to pay its pro rata part of the expenses, provided it did not exceed 10 cents per member.

After passing the usual votes of thanks the Association adjourned to meet at the time and place already designated.

OHIO BOARD OF PHARMACY EXAMINATION.—At the examination before the Board of Pharmacy, held in Toledo, Aug. 3, out of thirty four applicants only ten passed a satisfactory examination, and were awarded certificates of competency to register. The successful ones were: Pharmacists—Carl Tuttle, Berlin Heights; T. C. Rummel, Lucas; B. H. Demming, Cleveland; P. H. Hirth, Detroit; L. S. Vincent, Dayton; H. Lohmann, Cincinnati; W. W. Christian, Norwalk; N. Gernhardt, Toledo; A. C. Friend, Monroeville. Assistant Pharmacists—H. J. Chapman and N Fairfield.

The next examination will be held in Cleveland on Monday, Oct. 11, and the candidates are requested to notify the Secretary, P. H. Bruck, Columbus, at least ten days before that date, so that proper arrangements for the examination can be made.

THE WISCONSIN STATE BOARD OF PHARMACY, at its last meeting, Aug. 15, 1886, examined twenty-nine candidates. Licentiate certificates were granted to J. W. Hicks, Albany; J. W. Coon, Montello; G. E. Burrell, Dodgeville; G. A. Richter, Madison; J. W. Tomkewitz, Milwaukee; Max Reinoldt, Sheboygan; J. Brown, Edgerton, and R. Soquet, Green Bay. Minor certificates were granted to Dr. George Dale, Iola, Wis., and Dr. P. J. Love, Centralia, Wis. Fred. O. Ray, Lake Mills, and Herman Vallet, Milwaukee, received graduate certificates.

THE THIRD WARD (CHICAGO) RETAIL DRUGGISTS ASSOCIATION met in Room 3, Central Music Hall, Aug. 20, 1886. There were nine members present. Mr. Forsythe was chosen chairman. The chief business discussed was amendments to the retail price list, after which the following officers were elected: President, E. H. King; Vice-President Soren Matthison; Secretary, E. A. Lyon; Treasurer, N. Gray Bartlett; Board of Control, Messrs. Wilson and Uhlendorf. Delegates to Central Committee, Messrs. King and Bartlett. The Association then adjourned.

ANNUAL MEETING OF THE C. R. D. A.

The Chicago Retail Druggists' Association convened Aug. 13, 1886, in the Methodist Church Block. There was a fair attendance.

The address of President Jamieson presented in a forcible light the chief work before the Association.

The object of the meeting, he said, was to review the work performed during last year by the Executive Council; reports of which would be furnished in detail by the proper officers for action thereupon by the Association. Many questions of vital importance had been considered, and upon some action had been taken which had a direct bearing upon the financial welfare of all Chicago druggists. Other questions discussed would be referred to the Association to-day for its consideration.

No very important changes had taken place in the drug trade during the past year nor had measures been taken to bring about such changes. The officers had tried to avoid rather than encourage open warfare; "peace with honor" had been preferred to useless victories or ignominious defeats. The members of the Association had not been called from their work merely to devise expedients, but such work had been thoroughly done by the members to whom it was delegated.

The secretary's report would show that an arrangement had been made with the wholesale trade by which they agree not to sell goods at retail in competition with druggists and also to protect them from unfair competition; giving, at the same time, the Association the right to call their attention to any infraction of commercial rules detrimental to druggists' interests. A Committee on Grievances should therefore be created, to which the members could bring any derelictions with which they might be acquainted.

The chairman of the Trade Interest Committee would present for consideration a plan by which the rapidly vanishing trade in sundries, once peculiarly the druggists' property, could be regained and permanently kept. Any plan which, like this, offered a means of preventing cheap-John competition with druggists in lines of trade built up by them, should be given a fair trial, more especially as druggists elsewhere were watching the efforts of Chicago retail druggists in this direction. If it should please the Association to make the Chicago Pharmacal Company a success, a Retail Druggists' Exchange should be established therewith to facilitate exchange of specialties of druggists' manufacture and for other mutually advantageous purposes. Since it was clear the public did not want cheap drugs and relied upon the reputable retail pharmacist to protect it against sophistication a committee of three to be known as the Committee on Adulteration and Sophistication should be appointed to test the quality of drugs offered at suspicious prices and thus guard the trade against imposition in this particular. In case such a committee were appointed a sum sufficient for its necessary expenses should be appropriated. The general commercial depression had been less felt in the Chicago retail drug trade than elsewhere. This was due to the business tact of the druggists who had refused to adopt the senseless practice of selling goods without profit to attract trade. A druggist who could offer no better inducement to the public to trade with him than a whispered reduction of a few cents on worthless compounds was a disgrace to the profession.

The Chicago Retail Druggists' Association had earned the right to demand the hearty support of the trade since

First, it had saved the trade nearly $10,000 per annum by having the city license tax reduced to a permit basis and was an effective bar to inimical legislation.

Second: It had placed druggists in their proper light before the public. They were looked upon now as professional men, not as liquor dealers.

The third object accomplished was that, through the fraternal feeling it had engendered, trade disturbances had been avoided and to this was doubtless attributable the present favorable trade condition. This fraternal feeling should be extended until the *esprit du corps* of the Chicago druggists became as proverbial as Chicago's commercial activity and business sagacity.

Proposed amendments to the pharmacy law would be placed before the next legislature for action, and as these would elevate the already high status in pharmacy still more the committee having the matter in charge should receive substantial support.

Through the efforts now being made all over the coun-

try on behalf of a higher educational standard in pharmacy it is safe to predict that through evolution and the survival of the fittest, pharmacy in the near future would be the equal of any profession in social status and educational attainments. Every effort should be used toward this end, and it should be shown to the public that its confidence and esteem were well bestowed.

The Secretary then read the following report:

The Executive Council had convened regularly in quarterly sessions during the year. It had held a number of special meetings. One of the first subjects to claim and receive attention was that relating to retailing by jobbers, which after thorough discussion and a conference with representatives of the various jobbing houses was amicably adjusted; the latter agreeing to do all in their power to abate the practice and protect their customers, both in their trade and their profits.

The chief question before the council at its various meetings was how to maintain prices on sundries and at the same time prevent the trade in this branch from drifting into the hands of the cheap-factotum stores. It was found that these stores would have no difficulty in obtaining supplies either from jobbers out of the city or from manufacturers, and that in their determination to appropriate the trade they were ready at any time to strike off the last vestige of profit. Against such competition druggists could not, of course, be expected successfully to contend and hence arose the necessity of independent action through an independent corporation securing the ownership of all brands, trademarks, copyrights, and regulating all methods of sale; all goods manufactured to be under the direction of the company and sold only to druggists, and by them sold only at certain specified prices. The stock of the corporation to be owned by the retail druggists of Chicago in such amounts as would enable each retail druggist to become a stockholder. The corporation has been duly organized and only awaits further action by the Association in order to be equipped for active business. The report also stated that about $900 had been transferred by representatives of subscribers to the I. P. A entertainment fund to the C R. D. A. to be held as a fund for the future entertainment of the association in Chicago.

Treasurer Uhlendorf then read the following report:

Receipts: E. O. Gale, 1st ward, 23 members, $11.50; W. R. Wilson, 2d ward, 16 members, $8.00; B. Uhlendorf, 3d ward, 15 members, $7.50; E. V. Herrman, 5th ward, 16 members, $8.00; W. Wunbury, 6th ward, 16 members, $8 00; C. W. Grapley, 8th ward, 19 members, $9.50; L. Strehl, 9th ward, 18 members, $8.00; W. G. Morris, 12th ward, 22 members, $11.50; C. W. McMillan, 15th ward, 20 members, $10.00; R. E. Rhode, 16th ward, 13 members, $6.50; W. A. Eldred, 17th ward, 7 members, $3.50; G. P. Martin, 18th ward, 25 members, $12.50; total, $105.00; received from former treasurer $114.25; total, $219.25; disbursements April 13, 1886, Brown, Pettibone & Co., $61.38; May, 2, 1886, W. A. Weed, $50 00; June 3, 1886, Ingram & Anthony $8 00; postage and mdse., $16 27; total, $135.65. Disbursements: For printing annual proceedings, $69 38; miscellaneous, $66.27; balance, $83.60.

On motion the president's address and treasurer's and secretary's reports were referred to a committee composed of Messrs. W. K. Forsyth, W. G. Morris and A. C. Musselwhite, who made the following report: The recommendation of the president to appoint a Committee on Grievances should be concurred in. The committee also recommended that, in case the Chicago Pharmacal Company succeeded in its organization, a Retail Drug Exchange, as suggested by the president, be established. The committee also indorsed the president's proposition in regard to price cutting, and urged his appeal in behalf of the Pharmacal Company. On motion the report was adopted.

The question of indorsing the aims and objects of the Chicago Pharmacal Company was then brought up. After a very animated discussion in which there were but few dissenting voices the Association decided to indorse the company and secure membership in the same for its members.

On motion a committee of three was appointed to enquire of certain ward union treasurers the reasons for nonpayment of dues.

Messrs. F. A. Druehl, W. R. Wilson and Fleischer were appointed a Committee on Nomination.

Secretary C. W. Day of the Illinois Board of Pharmacy was invited to speak, and in his usual forcible manner urged support of the proposed amendments to the pharmacy act.

The Committee on Nominations then reported as follows: President, T. N. Jamieson; Vice-Presidents, North Side, R. E. Rhode; South Side, J. K. Forsyth; West Side, W. G. Morris; Secretary, G. P. Engelhard; Treasurer, Bodo Uhlendorf. Executive Council, Delegates at Large: Messrs. A. E. Ebert, D. R. Dyche, E. O. Gale, George Buck J. S. Jacobus, C. H. Plautz, F. A. Druehl, H. W. C. Martin W. R. Wilson, J. H. Hubachek. The Association then on motion adjourned.

THE DAKOTA PHARMACEUTICAL ASSOCIATION.—The Association held its first annual meeting at Fargo, Aug. 3, 1886. Mr. Holmes was elected chairman pro tem and Mr. H. L. Haussamen secretary. Messrs. D. M Holmes, W, H B. Eisenhuth, R. Berg, C. F. Lighthall, C. Weinsma and H. L. Haussamen were on motion appointed a committee to draft a constitution and by-laws. The constitution and by laws reported by the committee were adopted by the Association, after which the following officers were elected: President, J. W. Von Neida, Fargo; 1st Vice-President, R Bergh, Grand Forks; 2d Vice-President, C. R. Meredith, Jamestown; Secretary, H. L. Haussamen, Grafton; Treasurer, E. C. Maxey, Fargo. Executive Committee: F. Frisby, Bismarck; F. S. Langdon, Casselton; H. Miller, Wahpeton; Committee on Legislation: D. W. Holmes, Grand Forks; E. C Maxey, Fargo; F. Frisby, Bismarck; C. R. Meredith, Jamestown; F. Voegeli, LaMoure. Committee on Queries, P. W. Hawkinson, Fargo; C. R. Meredith, Jamestown; W. H. B.Eisenhuth, Carrington.

It was decided on motion, that for ninety days all drug store proprietors and all clerks with three years' experience should be admitted on signing the constitution and paying dues. The president was authorized to appoint one member in each county to secure members for the Association. In case a county were not represented in the Association, the Secretary was directed to write to a prominent pharmacist in that county and request him to join the Association and secure members for it. The Executive Committee was requested to meet after the expiration of ninety days and determine upon the next place of meeting; it was decided to hold the next annual meeting on the first Tuesday in August, 1886. The Association then adjourned.

The members present were: F. Frisby, Bismarck; W. H. Eisenhuth, Carrington; G. W. Bodle, F. S. Langdon, Casselton; M. D. Fleming, P. W. Hawkinson, K. Maartman, E. C Maxey, E. W. Morse, I. E. Shepherd, C. F. Swift and J. W. Von Neida, Fargo; H. L. Haussamen, Grafton; R. Bergh and D. M. Holmes, Grand Forks; G. W. Boylan, Hamilton; A. L. Lien, Hillsboro; C. R. Meredith, Jamestown; C. H. Pierce, Kindred; C. F. Lighthall and Fred Voegeli, LaMoure; F. Benham, Larimore; J. W. Boeing, Minto; D. F. Siegfried, Sanborn; H. G. Hourn, P. G. Petterson and C. F. Thomas, Valley City; H. Miller and C. Wiensma, Wahpeton, and Messrs. J. C. Eliel and J. H. Reynolds, of Minneapolis, Minn., honorary members.

BROOKLYN JOINT COMMITTEE.—Drs. G. R. Fowler, B. F. Westbrook, C. R. Paddock and Messrs. C. R. Paddock and S. D. McElhenie constituting the Joint Committee of the

Kings county (New York) Medical, Pharmaceutical and Pathological Societies, have submitted the following resolutions to the respective societies which have adopted them.

Whereas, a number of assays of Tincture of Nux Vomica have been recently made in this city by this Joint Committee, which have shown that all of them varied above or below the standard set by the United States Pharmacopœia of 1880, and

Whereas, the process of assay given by the Pharmacopœia is feasible and readily applied, therefore

Resolved, that this Joint Committee notify all pharmacists in this county that on and after Aug. 1, 1886, Tincture of Nux Vomica will be expected to assay according to the standard of the Pharmacopœia of 1880.

The committee request from each Brooklyn pharmacist an ounce of the tincture in use after Aug. 1, 1886, and also caution pharmacists against making the tincture from powdered extract, as the fixed oil is removed in its manufacture, and the tincture will contain a higher percentage of alkaloids than intended. It should only be made from percolation from the powdered drug.

QUERIES OF THE PENNSYLVANIA PHARMACEUTICAL ASSOCIATION.

Mr. John W. Miller, Allegheny, Pa., Chairman of the Committee on Papers and Queries, announced the following Queries for the next meeting and requested early notice of additions to the list, and acceptance of queries given.

1. What is the quality of the pressed herbs of the market? Particularly as to identity, recent growth, and freedom from admixture. 2. What is the best method available to the pharmacist for the purification of alcohol recovered from the various preparations in which it has been used? 3. What is the quality of the Lupulin found in the market? An examination of commercial specimens, with results, is very desirable. 4. The preparation of wool fat (Lanolin) from wool by the use of petroleum benzine, and process for its purification? 5. Some of the methods adopted for the introduction of alleged New Drugs and Pharmaceutical preparations. 6. What are the so-called concentrated essential oils, and how are they made? 7. Continued to J. H. Stein, Reading. 8. It has been stated that two sorts of Pepsin exist; one readily soluble, obtained by the Scheffer process, and another much less soluble, present in the so-called crystal or scale Pepsin. Pepsin has also been regarded by some as a ferment; that is, as having the power of reproducing itself. Experiments to substantiate or disprove these statements are desirable. 9. The practical value of Photo. Micography in the examination of Drugs, with description of apparatus required, and method of using it. 10. Test the so-called Rock Candy Syrups of the market, for adulterations, and give results. Should it be dispensed for officinal syrup? 11. Is the present officinal formula for Syrup of Senna sufficiently practicable? And is the product satisfactory? 12. The Pharmacist! wise and otherwise, and how to use him. 13. Demonstrate the injustice of railroad companies, rating most Drugs and Medicines first-class, and suggest a remedy. 14. There is a marked difference in the odor of Terebene obtained from European and American Turpentine. Indicated by the price, it is claimed European is 75 per cent. better. What is the difference, if any, in their therapeutic, officinal properties, specific gravity, etc.? 15. How can this Association make practical the important suggestions made in its papers. For instance, how can we influence elimination from the Pharmacopœia the long list of officinals that are never called for? 16. What effects can be produced by Ext. Belladonna Folia that would make the Ext. Belladonna Radix objectionable, and why use both? 17. What byproducts could be obtained from the manufacture of Coke in the Connellsville region, and would it pay to recover them? 18. A concise history of Pharmacy, with conspicuous contrasts, ancient and modern. 19. What preparations are more properly made from Green Drugs, and why? 20. The latest form of empiricism is manifested in introducing to physicians and Pharmacists preparations for which is claimed superiority of manufacture and specialty of combination. How can this most successfully be discouraged? 21. How does the Spiritus Aetheris Nitrosi in the market, and dispensed, compare with the requirements of the Pharmacopœia? 22. Continued to Prof. J. P. Remington, Philadelphia. 23. Water—Its uses and abuses in Pharmacy. 24. Give an improved formula for pill of Iodide of Iron? 25. What is the best preliminary course for a student who eventually expects to graduate from a College of Pharmacy? 26. Continued to Prof. J. P. Remington, Philadelphia. 27. The deodorization of Iodoform without destroying its peculiar qualities. 28. A test for purity of the Saffrons of the market with results. 29. Does Corn Silk lose its medicinal value by drying? If so, what change takes place in its composition? 30. It is said that an ointment of Hypo Chloride of Sulphur will granulate in about thirty days so as to become irritating. Why is this? 31. Caffein and Thein are dispensed indiscriminately, it being claimed they are the same. Are they? 32. Continued to Chas. T. George, Harrisburg. 33. Continued to Prof. J. P. Remington, Philadelphia. 34. Large quantities of Menthol are made from Oil of Peppermint; what percentage of residue is left, and what becomes of it? 35. The use of the Microscope in Pharmacy. 36. Continued to Chas. T. George, Harrisburg. 37. Is there a negative and positive side to Carbon, as there is to Oxygen? 38. What are the uses of Benzine and the lighter Petroleum products in Pharmacy? 39. Continued to John W. Ridpath, Jenkintown. 40. Continued to F. H. Eggers, Allegheny. 41. The responsibility of proprietors for the careless or nonlabeling of any package dispensed. 42. What necessity exists for the enormous profit charged Pharmacists by manufacturers of chemicals and wholesale druggists, for glass and other containers? 43. Our customers, their phases, and how to treat them. 44. It is asserted that a higher grade of intellectual and educational attainments should be demanded from those offering themselves as students of Pharmacy. As compared with other occupations demanding such attainments, what recognition, reward or compensation, socially, pecuniarily or otherwise, does Pharmacy offer? 45. Commercial Therapeutics: that is, the business of the wholesale manufacture of proprietary prescriptions. Will not the continued success of this business inevitably cause a return to the combined practice of Medicine and Pharmacy? 46. Should Pharmacy Laws exempt graduates in Pharmacy from examination before granting them a certificate as Registered Pharmacist? 47. What are the sources, qualities and practical value of the Filter Papers of the market? 48. Acetate of Lime: Give history of its manufacture in this country; amount made yearly, amount exported, value, uses, by-products, etc. 49. What is the source and composition of the various preparations or oils used as adulterants of Castor and Linseed Oil? And how may their presence be detected and estimated? (The importance of the next query cannot be over estimated in its probable effect on the next revision of the Pharmacopœia, and that it may be comprehensive, it is urged that a number of our Pharmacists North, South, East and West will accept it, and make their statistics from 500 @ 1,000 prescriptions each, reporting at meeting of 1887; that the writers will then appoint one of their number to compile the whole, and report at the meeting of 1888.) 50. What drugs and preparations are prescribed by Physicians in Pennsylvania?

The recent discovery of Dr. Gautier as to leucomaines (WESTERN DRUGGIST, May, 1886) have a more than ordinary interest to pharmacists because of their bearing on certain questions in pharmacology. It was long ago shown by Charles Darwin (Origin of Species) that certain pigeons whose ancestors had for generations fed on the poppy, could not be poisoned by opium. Dr. Murrell and others have shown (British Medical Journal, Aug. 25, 1881) that the denizens of "the Fens" in England, are not readily affected by opium, nor does opium using produce in them injurious effects since their ancestors have used the poppy and its preparations in the treatment of malaria for centuries. Dr Amabile, of New York, has recentlyshown that the children of opium-smokers are not readily affected by that drug. The natural inference from these facts is that immunity from the poisonous effects of drugs are inherited, and this furnishes a ready explanation of the idiosyncrasies so frequently manifested. At the same time they introduced a new element of danger and error into the study of posology and pharmacology.

AMERICAN PHARMACEUTICAL ASSOCIATION.

The thirty-fourth annual meeting of the American Pharmaceutical Association convened at 3 P. M., on Tuesday, September 7, at Providence, R. I. About two hundred members were present. After the meeting was called to order, President Joseph Roberts, of Baltimore, delivered the annual presidential address.

He congratulated the Association on its prosperity and discussed some interests of pharmacy. He commended the resolutions of the Maryland Association condemnatory of patent medicines and concerning that part relating to the co-operation of physicians, he said: "This resolution is a step in the right direction, but possibly does not go far enough. It is by the aid and countenance of physicians that this evil can be controlled and lessened. Physicians, if properly approached, will ever be found ready to aid and foster with their best efforts all measures in the interest of pharmacy that will inure to public good." The scope of the resolution should be amplified and the question brought by the American Pharmaceutical Association before the various medical societies of the country. This would do much to remedy the evil. Such action should recognize that many preparatons now in popular use grouped under so called "elegant pharmacy," have become such fixtures that it will not do to ignore them. The request should, therefore be made that physicians confine the prescriptions to officinal remedies, and non-secret, non-proprietary remedies indorsed by, and the formula published from time to time under the sanction of the American Pharmaceutical Association. The address devoted considerable attention to the report of the committee regarding the by-laws and constitution of the Association, making suggestions as to a reserve fund, qualifications of members, etc. He said: There are some offices that from the very nature of the duties exacted should be continued in the hands of the same officer as long as he performs his duties intelligently and faithfully; such offices as that of Permanent Secretary.

He called attention to a resolution of Mr. Ebert referred by the Council to the Association which provided that: "A committee be annually appointed, to be known as the committee of Materia Medica of Pharmacognosie, to consist of five members, whose duty it shall be to investigate and report annually on the origin, source and value of new remedies, such as are brought to the notice of the medical and pharmaceutical professions, the committee to represent the different sections of the country." Such a committee could not fail to be of decided value.

The rapid increase of pharmaceutical colleges was threatening the welfare of the profession. It was desirable that this should be checked.

The address was on motion referred to a committee consisting of Messrs. W. S. Thompson, of Washington, A. E. Ebert, of Chicago, and S. A. D. Sheppard, of Boston.

The roll of delegates was then called by Secretary Maisch, of Philadelphia.

COLLEGES OF PHARMACY.

Chicago—George Buck, Henry Biroth, Albert E. Ebert, H. W. Fuller, Charles S. Hallberg.
Cincinnati—J. U. Lloyd, T. L. A. Greve, J A. Wells
Louisville—C. Lewis Diehl, Edward C. Pfingst, Wiley Rogers, J. W. Fowler, Thomas P. Taylor.
Maryland—Joseph Roberts, Henry A Elliott, William Simons, D. M. R. Culbreth, J. W. Geiger.
Massachusetts—George F. H. Markoe, S. A. D. Sheppard, Edgar L. Patch H. K. Appleton, William G. Durkee.
National of Washington—W. S Thompson, Charles Becker, G. B. Lockhart, W. G. Duckett, John A. Milburn.
New York—Ewen McIntyre, H. J. Menninger, Samuel J. Bendiner Charles Rice, Thomas J. McMahan.
Montreal—L. B. Baridon, Joseph Benrose.
Ontario—William Saunders.
Philadelphia—Alonzo Robbins, Robert England, Gustav Pile, Edward C. Jones, Henry Trimble.
St. Louis—H. M. Whelpley, J. M. Good, O. A. Wall, J. W. Tomforde, M. W. Alexander.

STATE PHARMACEUTICAL ASSOCIATIONS.

Alabama—P. C. Candidus, E. P. Galt, B. W. Williams, J. R. Goldthwaite, P. J. McMillan.
California—Emlen Painter.
Connecticut—H .H. Osgood, John K. Williams, Herman J. Sperry, J. G. Rathbun, James O. May.
Georgia—J. Ingalls, Theodore Schumann, J. W. Rankin, H. R. Slack, Jr., J. C. Solomon.
Illinois—George Buck, Henry Biroth, C. W. Day, C. S. Hallberg, T. H. Patterson.
Indiana—Geo. H Andrews.
Iowa—J. H. Harrison, Rosa Upson.
Kansas—W. C. Sears, M.L. Stone, R. J. Brown, George Leis, R. L. Drake.
Kentucky—R. D. Payton. H. H Rademaker.
Massachusetts—J. W. Colcord, Henry Canning, F. M. Pease, C. H. Price.
Michigan—A. B. Prescott, A. B. Stevens, O. Eberbach, A. B. Lyons, H J. Brown, Geo. McDonald.
Minnesota F. I. Stark, Carl Simmons.
Missouri—H. M. Whelpley, J. M. Good, J. S. Baker, G. H. C. Klie, M. W. Alexander.
Nebraska, C. F. Goodman N. A. Kuhn, F. B. Kennard.
New Hampshire—C. A. Tufts, Charles A. Smith, Charles B. Spofford, George F. Underhill, Edward H. Currier.
New Jersey—William Runzler, G. S. Cook, A. P. Brown, M. Abernesky, E. A. Sayre.
New York—William P. De Forest, R. K. Smithers, W. H. Rogers, Clay W. Holmes, R. G. Eccles.
North Carolina—James C. Munds.
Ohio—G. L. Heckler, Charles Ludlow, G. W. Voss, Theodore Troupe, J. D. Wells.
Pennsylvania—Charles F. George, J. H. Redsecker, J. H. Stein, J. F. Patten, E. O. Corcell.
Texas—W. B. Morrison. E. W. Lancaster.
Virginia—T. Roberts Baker, F. H. Masi, J. W. Thomas, Jr., C. B. Fleet, E. N. Beckwith.
Wisconsin—F. M. Givens, J. C. Huber, John A. Dadd, Adam Conrath, Henry C. Schranck.
Province of Quebec—A. Manson, S. Lachance, A. H. Mason, R. McLeod, Wm. Ahern.

COUNTY OR CITY ASSOCIATIONS.

Allegany (Co) New York—O. E. Vars, Cleveland; L. A. Haber, Joseph Fell, Edward Classen.
Kings (Co.) New York—Lewis E. Nicot, Luther F. Stevens, L. T. Perkins, Charles R. Paddock, T. M. Lahey.
Lancaster (Co.) Pa.—Charles A. Heinitsch, B. T. W. Urban, H. B. Cochran, J. R. Kauffman, R S. Ross.
Richmond (Va) J. W. Pierce, J. W. Willis, J. B. Purcell, H. Bodecker, W. H. Scott.
New York—B. Frank Haves, Thomas F. Main, John Pfeiffer, Arthur C. Sears, Wm. Wright, Jr.
Philadelphia—A. W. Miller, C. Carroll Meyer, J. M. Maisch, Wm. Weber, W. H. Cheney.

ALUMNI ASSOCIATIONS OF COLLEGES OF PHARMACY.

Louisville—Edward Goebel, Otto Heausgen, Phil Fischer, Jr., William Tafel, P. Schlosser.
Massachusetts—W. W. Bartlett, C. C. Williams, F. H. Butler, G. N. Hoyt, J. C. Cutting.
Pittsburgh—Will S. Jones, C. H. Beach, J. A. Koch, F. W. Walker, F. W. Eggers.
St. Louis—J. W. Tomfohrde, H. M. Whelpley, J. M. Good, O. A. Wall.
University of Michigan—F. W. R. Perry, A. S. Parker, E. R. Stevers, F. T. Bowen, C. W. Parsons.

The roll of the Colleges of Pharmacy and State Associations was called, that the delegates might nominate the members of a committee to nominate officers for the ensuing year. The names of nineteen applicants for membership were posted up in accordance with the usual custom. The President then nominated as delegates at large Messrs. J. P. Remington, E. Bocking, R. H. Vansant, H. S. Welcome and L. Eliel.

On motion of Mr. McMahan, the privileges of the floor were extended to Providence druggists and physicians not members of the Association.

Assistant Secretary Kennedy read a report of the Executive Council.

Mr. Edmund Bocking, of Wheeling, W. Va., read an amusing obituary of the West Virginia Pharmaceutical Association: The West Virginia State Pharmaceutical Association came into existence on June 2, 1881, in a vigorous condition and with the surprising number of 172 members. Its health continued satisfactory until the fatal "Snaix" incident. From that day it began to fail, and sank steadily to an untimely end. Its death occurred on June 2, 1886, only four of the family of the deceased being present at the sorrowful occurrence. "*Requiescat in pace.*"

The Committee on Membership reported that the number of members at last report was 1,324; since added, 35; total, 1,359; loss by resignation, dropped and death, 65; membership in good standing, 1,294; honorary membership, 26.

The Treasurer reported as follows: Balance on hand, $4,217.79; receipts, $5,402.64; total, $9,682.43; expended, $5,184 34; balance to new account, $4,501.09; investments, $3,765.94. The Treasurer tendered his resignation, after which the Association adjourned to 9 A. M.

SECOND DAY—MORNING SESSION.—The Association was

called to order at 9:30 A. M., and the following gentlemen were admitted to membership:

Fred. W. Fink, New York; Henry A. Estabrook, Fitchburg, Mass.; August Gresham, Newark, N. J.; Albert S. Dolloff, Lake Village, N. H.; Gus Dresser, Putnam, Conn.; C. J. McCarthy, Shenandoah, Pa.; Arthur B. Houson, Chillicothe, O.; D. F. Downing, Newport, R. I.; C. T. Fennell, Cincinnati, O.; Clark Z. Otis, Binghamton, N. Y.; C. V. Stryker, Philadelphia; Benj. F. Quackenbush, New York City; Azor Thurston, Grand Rapids, O.; W. E. Warn, Keyport, N. J.; J. Leroy Leyberg, Detroit, Mich.; Willis G. Gregory, Buffalo, N. Y.; Ed. D. Wright, New Bedford; D. Frank Hayes, New York; Henry Schmidt.

The Nominating Committee reported the following list of officers, who were unanimously elected:

President—Charles A. Tufts, Dover, N. H.

Vice-Presidents—Henry J. Menninger, Brooklyn, N. Y.; M. W. Alexander, St. Louis, Mo.; N. A. Kuhn, Omaha, Neb.

Treasurer—S. A. D. Sheppard, Boston, Mass.

Secretary—John M. Maisch, Philadelphia.

Reporter on Progress of Pharmacy—C. Lewis Diehl, Louisville, Ky.

Committee on Legislation—T. L. A. Greve, Cincinnati; John M. Maisch, Philadelphia; Edward Bocking, Wheeling, W. Va.

Members of Council—George W. Kennedy, Pottsville, Pa.; A. H. Hollister, Madison, Wis.; William H. Rogers, Middletown, N. Y.; P. C. Candidus, Mobile, Ala.

Committee on Drug Market—George J. Seabury, New York; Mahlon M. Kline, Philadelphia; E. Waldo Cutter, Boston; Daniel Myers, Cleveland; C. F. G. Meyer, St. Louis.

Committee on Papers and Queries—Virgil Coblentz, Springfield, O.; William W. Bartlett, Boston; E. Painter, California.

Committee on Prize Essays—C. Lewis Diehl, Louisville; Emil Scheffer, Louisville; Rosa Upson, Marshalltown, Ia.

President Tufts, upon being conducted to the chair, made a brief address, thanking the Association for the honor conferred upon him. Fraternal greetings were exchanged with the San Francisco Association.

The report of the Committee on Legislation was then read. It referred to the draft accepted by the Association, and embodied the following resolution:

Whereas, All medicines concern the health of those who use them, and,

Whereas, The purchaser of a medicine selected by himself has the right to receive information of its constituents and quantities.

Whereas, The report and the draft regulating the sale of proprietary medicines, which were accepted by the A. P. A. at its meeting held September, 1885, embrace a method whereby the above-mentioned objects may be secured. Therefore be it

Resolved, That the President and other officers of the Association be authorized and instructed to present printed copies of the reports and of the action had in this Association upon said reports to the Governors, to the Speaker of the Senate and Houses of Representatives, and to the State Board of Health of the different States, and also to offer any services wherein these authorities may consider the co-operation of this Association desirable or useful.

A review of the pharmaceutical legislation for the year followed, including a review of the newly enacted pharmacy laws of Virginia and Wyoming; the amendments to Iowa, New Jersey and King's county (N. Y.,) pharmacy acts; the acts regulating the sale of poisons, including the colored label morphine acts; food, medicine and candy adulteration acts of New York.

Mr. Main objected to any action being taken which would diminish the value of the patent medicines now in stock. Mr. McMahan had the same objection to the resolution.

Mr. Hallberg, of Chicago, said that the adoption of the resolution would show the sense of American druggists who were best qualified to pass judgment upon patent medicines. The traffic was onerous, nefarious, and materially injured the community as well as the professional and commercial interests of pharmacists.

Messrs. Day and Remington also strongly supported the resolution. A motion to strike out the preamble and resolution was lost by a vote of 20 to 47, after which the report was received and the resolution adopted; a motion to lay the report on the table offered by Mr. Sayre was defeated. Messrs. J. U. Lloyd, E. Painter and P. W. Bedford were then appointed a Committee on Time and Place of Next Meeting. The secretary reported that the majority of the Association preferred September.

The Committee on Drug Market reported that there had been an increased demand during the year for an article doing incalculable injury to the fair fame of pharmacy; the so-called malt whiskey. It was a matter of the profoundest regret and humiliation that certain concerns engaged in wholesale liquor business conceived the idea that a favorable opportunity offered to increase sales by forcing articles of alleged merit through the respectable channels offered by the drug trade. Physicians published certificates by the column, and the movement had swept through the country. Many conscientious druggists long absolutely refused to yield to this demand, until driven to it by physicians prescribing the article. It would be well to take special cognizance of this latest outrage upon the dignity or the profession, and devise some means to conquer or render harmless this so-called medical enemy. If this outrage were permitted, it would be difficult to say what new disgrace to pharmacy would be invented.

The delegation to the N. W. D. then reported, after which the delegation from the N.W. D. A. were introduced to the Association. Mr. T. F. Main made a graceful response to the speech of welcome. The reports of the Committee on Printing and Essays were then on motion ordered printed.

Mr. W. P. De Forest, of Brooklyn, from the Committee on National Formulary, reported in favor of the adoption of the following propositions by the Association:

1. Scope of the National Formulary—The National Formulary, to be published under authority of the American Pharmaceutical Association, may contain the formulas of such preparations as have either been formerly officinal in the U. S. P., and have been discarded, though still in demand; or such as has never been officinal, but deserve recognition, because more or less generally in use. Among the latter may be any preparations contained in foreign Pharmacopœias, if there is known to be sufficient demand for them in any section of this country. It shall also contain the preparations belonging to so-called "elegant pharmacy," but it shall not be encumbered with purely technical, trivial, or fancy preparations.

2. System of Weights and Measures—The National Formulary shall direct the quantities of the ingredients of such liquid preparations as are prescribed or administered by measure, in apothecaries' weight and United States measure. The same way to be done in all other cases, but the system of "parts by weight" may be used where it appears to be more natural and convenient.

3. A. General Duties and Functions of the Committee—The committee to which is assigned the duty of preparing or revising the National Formulary shall take charge of all the documents regarding the matter which may be presented to the Association. And all Associations or individuals are requested to forward their contributions, as early as possible, to the committee. The committee is often compelled to decide between the merits of rival preparations, and heretofore it has been able to do this only by making the preparation itself. This method however, has been found not to be sufficiently free from the risk of a failure to appreciate the particular meritorious feature that may be claimed for the preparations in question. It is deemed absolutely necessary that, in all doubtful cases, the proposer of a formula should furnish a sample of the preparation as made by himself. The Association, therefore, requests that when the committee call upon any individual or upon any other formula committee for samples of any proposed preparations which it may need for reference and comparison, these samples be promptly furnished. And the committee shall not be held responsible for modifying or ignoring formulas or preparations, samples of which have not been furnished when so requested.

B. The committee having perfected the compilation of the National Formulary, or any subsequent committee having accomplished its revision—in case the Association shall approve the work—shall supervise and have sole charge of the printing of the text of the Formulary. It is only when seeing the final text before them, with opportunity to refer at any time to formulas already passed upon and printed, that a harmonious text can be obtained. Each member of the committee should receive a proof, the corrections should be compiled by the chairman, and all matters that may be under dispute decided by a vote without delay. Hence, though a new committee may be appointed at any meeting of the Association, the previous committee shall not be considered discharged—if the whole text of the Formulary is involved—unless it has seen its own work through the press. And the printing of the work shall be taken in hand immediately after the annual meeting. Arrangements for the printing shall be made by the publication committee of the Council. Nothing contained herein, however, is intended to prevent any new committee from organizing and beginning work immediately after its appointment.

4. Publication of the National Formulary—The National Formulary, after being finally compiled and adopted, shall be printed in the Proceedings, and also in pamphlet form, in which latter shape it shall be kept for sale. (How frequently the Formulary, as a whole, is to be revised, and whether any needed additions may for several years temporarily be deposited in the Proceedings, or otherwise, may be better determined sometime after the Formulary has been in use.]

5. Publication of the Preliminary Draft of a National Formulary Herewith Submitted—The Draft of a National Formulary offered by your committee shall be printed immediately after the present annual meeting, under arrangements to be made by the publication committee of the Council, and the printing shall be supervised by the committee. In printing this draft, economy of space is recommended to be studied, and formulæ which are already easily accessible in separate pamphlets may be only quoted by title (references being given), except when remarks are to be appended. This draft of a National Formulary shall be printed to the number of 250 copies beyond those required for the proceedings, the separate copies being placed at the disposal of the Committee for Distribution to outside committees and to individuals.

These propositions were taken up as well as the following recommendation:

The committee have entitled their compilation a Preliminary Draft of a National Formulary, and they recommend that another year be devoted to further critical examination of the formulas presented, as well as of those contained in any other collections or drafts which have not yet been considered for want of time, or which may be presented by other bodies hereafter. In case the Association adopts this recommendation your committee deems it of great importance that the same plan which has been followed during the preceding year should also be followed in the future, namely, that the committee having the matter in charge should be so chosen that its members are within easy reach of each other, so as to be able to hold frequent meetings. A committee scattered all over the United States may, perhaps, be perfectly successful in revising such a work as the Pharmacopœia—the draft of which is already in existence for the use of the revisers, who may distribute the work of revision among themselves. It is different, however, with a Formulary of Unofficinal Preparations, which has to be, as it were, built up from the foundations with material brought together from all parts of the compass. There should be numerous helpers and agents in every State, but the working members of the committee should be within each other's reach and able to hold frequent meetings.

It was moved that these propositions and recommendations be adopted by the Association.

Mr. Ebert, of Chicago, moved as an amendment that the chairmen of the Unofficinal Formula committees of the various State Associations be added to the committee. This was seconded by various Western members including Messrs. Day and Hallberg, who contended that several State Associations had made reports of equal value to those of the New York and Brooklyn Committee, and hence should be represented on it. The amendment was lost and the original motion put and carried. Thanks were then voted the committee.

Mr. W. S. Thompson, of Washington, reported the following resolutions from the committee on Presidents Address:

First. That this Association solicit the aid and coöperation of the American Medical Association in promoting the prescribing by physicians of officinal medicines only, or of such preparations as have published formulas in preference to others, and that the several State Pharmaceutical Associations make similiar requests of their respective State Medical Associations.

Second. That a committee of five, representing the different sections of the country be appointed to examine if the system of management of the A. P. A. could be improved.

Third. That the proceedings be printed, and ready for distribution by January 1, 1887; papers not in hand for the printer to be excluded.

Fourth. That undue multiplication of colleges of pharmacy should be discouraged.

Fifth. That the $5 initiation fee be abolished.

On motion the report was made a special order for Thursday morning. The Association adjourned till 3 P. M.

FIRST DAY AFTERNOON SESSION.—President Tufts called the meeting to order. The report of the Council meeting was read.

A paper "On Pepsin and Peptonization" by Dr. R. G. Eccles, M. D, was first read, which was very lengthy. It was divided into two parts, the first portion discussed the theories advanced in regard to the physiological phenomena of digestion and the second treated of the examination of the various brands of pepsin in the market. The rate of digestive power was determined by a number of experiments to be favorable at a temperature of 135°F and with the addition of 2 per cent of phosphoric acid. By the increased temperature and the substitution of phosphoric acid instead for hydrochloric the digestion was completed in one hour or less when the mixture was frequently agitated.

A paper "On the Preparation of Nitrous Ether" was read by Emden Painter, of New York. The process recommended was the distillation of arsenious acid with sulphuric acid into alcohol—and was illustrated with a diagram. Samples of the nitrous ether accompanying the paper were presented, which, although carefully kept in glass-stoppered vials rapidly volatilized. There was but little discussion. The Association then adjourned.

SECOND DAY MORNING SESSION.

The Association assembled at 10 o'clock, President Tufts in the chair. The application for membership of Goodwin R. Wiley, Bethel, Me., was directed to take usual course. The following resolution was adopted:

A resolution by Mr. Redsecker: That in addition to the five members from New York and Brooklyn there shall be appointed one person from each State Pharmaceutical Association, all of whom shall constitute the committee on unofficial formulæ, and that five members thereof shall be a quorum for the transaction of business.

The report of the committee on the President's address was then taken up. The resolution that the initiation fee be abolished was amended by substituting $2 for the present amount, and the report adopted.

Mr. Colcord introduced an amendment to the by-laws, providing that the annual dues be reduced from $5 to $3. This under the Constitution was laid over till the next session.

The resolution providing for reduction of Treasurer's salary from $750 to $600 was passed. The report of the committee on time and place of next meeting was, after much discussion, adopted. Cincinnati and the first Monday in September being selected.

A resolution embodying an amendment to the constitution abolishing the initiation fee, was laid over till the next session.

The question of Mr. Charles W. Day's position on the Committee on Legislation was settled by electing him to the chairmanship of that committee.

Mr. W. S. Thompson, of Washington, on behalf of the committee appointed to memorialize Congress to appropriate money to introduce the cultivation of foreign medicinal plants, reported that after a consultation with the Commissioner of Agriculture, it was decided that such action was unnecessary. That official expressed himself willing and anxious to undertake the task, and desired a list to be furnished him of seeds and plants most desirable to be used. It was voted that a committee be appointed to prepare a list of such, to be given to the Commissioner of Agriculture.

A motion that all papers to be read in the future should be printed in advance was referred to the publication committee. On motion suitable resolutions were ordered drafted expressing thanks to the Rhode Island Association for their making the Convention a success, and Messrs. P. W. Bedford and McDonald were appointed a committee for the purpose.

The President then announced that the Committee on Unofficinal Formulary was reappointed together with others who would be named later.

The Association adjourned to 2 P. M.

SECOND DAY AFTERNOON SESSION.

The afternoon session was devoted entirely to the reading of papers. "Pharmacy of Hydro-Naphthol," by Thomas D. McElhenie; "Butter and its Substitutes," by E. Scheffer; "Some notes concerning the Carbolic Acid made in America," by E. M. Harson; "What is the best paste for pasting labels, and how can paste be best prepared, by Leo Eliel; "What should be the relation between the wholesale druggists, manufacturing chemists and pharmacists as to the maintenance of proper standards of purity, quality and strength of medicinal substances," by J. M. Good; "Does Cannabis Indica contain nicotine," by George W. Kennedy; "Is it not feasible to prepare concentrated liquid from many drugs which need only to be diluted with the appropriate menstruums to bring them to the officinal strength, without having them differ in any important point from the weaker preparations directed by United States Pharmacopœia?" by J. L. Lemberger, Lebanon, Pa.; "Evaporation of Percolates," J. U. Lloyd; "Guarana—Methods for its assay and the assay of its fluid extract," H. W. Snow, Detroit; "An analysis of the underground portion of Phlox Carolina," H. Trimble, Philadelphia; "Ginger in soluble essence," Luther F. Stevens; "Glycerin and its uses," George W. Close; "On the best methods of determining melting points," Henry C. C. Maisch, Philadelphia; On the oil of peppermint," A. M. Todd, Nottawa, Mich.

The Committee on Reorganization asked for further time to prepare their report, and it was accordingly postponed till next year. The local secretary appointed for next year was named as chairman for the committee of arrangements, with power to appoint five others. A resolution concerning the Charleston sufferers was adopted, stating that several members of the Association had met with disaster, expressing sympathy and voicing the hope that their losses would be made good by increased prosperity. The determination was expressed by many to contribute to a purse of money to be sent to these members as a practical indication of sympathy.

A resolution of thanks to the governor of the State, the mayor of Providence and the citizens generally for the cordial reception tendered the Association during its stay, and also to the press of the city for the full reports published were then passed,

The amendment to the constitution of Mr. Colcord, submitted in the morning, to reduce the annual dues to $3, was lost. The Committee on Nominations announced Alfred H. Mason, of Montreal, as chairman of the committee on the drug market.

The Association, after some routine business, was adjourned.

An excursion to Newport, stopping at Crescent Park for dinner, was the final feature of the meeting.

NATIONAL RETAIL DRUGGISTS' ASSOCIATION—FOURTH ANNUAL MEETING.

The National Retail Druggists' Association convened in fourth annual session at Providence, R. I., Sept. 6. There were present about forty delegates, inclusive of President Sayre, Secretary J. W. Colcord, of Boston, Mass.; Treasurer J. D. Wells, of Cincinnati, O.

Mr. George J. Seabury, of New York, on invitation of the President, addressed the Association on behalf of the N. W. D. A. Messrs. Blanding, Main and himself had been appointed to extend the fraternal greetings of the N. W. D A., the president of which took a friendly interest in the retail pharmacists, and had often championed their cause. He would ask the N. R. D. A. to pass a resolution asking for the repeal of the obnoxious alcohol tax and to send a delegation to the N. W. D. A., as well as to seek, for mutual advantage, to emulate their last year's course on the rebate question.

At the call of the chair, Mr. Hollister responded by saying that there was no actual difference between the N. W. D. A. and the N. R. D. A., except that it was the duty of retail pharmacists to meet the wholesalers in a spirit which would secure mutual success. Retailers had in a large degree contributed to the success of the wholesalers, and hence might be expected to take a lead in redressing the wrongs affecting the two bodies. There was no trouble in the West from the retailing of goods by wholesalers. The wholesale dealers had done nobly in their action against drug adulterations. The druggists of Wisconsin, by their action on the liquor question, had shown what could be done against powerful interests. By union of the several associations great good would result to the cause of pharmacy.

Mr. T. F. Main, representing the Proprietary Articles' Manufacturers' and Dealers' Association, on invitation of the President, expressed the greetings and good will of his Association.

Mr. W. P. De Forest, of Brooklyn, responded on behalf of the N. R. D. A., expressing a desire for mutual action.

Upon motion of Mr. Eliel, of South Bend, Ind., a committee of three on credentials was appointed.

President Sayre then delivered his annual address:

He had accepted his present position with much misgiving. The Association, then but two years old, had passed through a crisis, and there was much discontent. The new Association had elected men to office scarcely known to the profession who had endorsed the Campion plan and zealously worked for its success. It failed, and the profession at large, ignorant of what was going on, and considering that the Association was a failure because patent medicine prices were not restored, had abandoned it. Those who remained, determined that the Association should live, and met at Pittsburg and passed resolutions looking to a reorganization on the principle of State Association representation. They then adjourned, leaving all authority in the hands of their Executive Committee. Half the members had failed to pay their dues, and financial affairs were in bad shape, as would soon appear in Treasurer Masi's report. Upon the subject of Mutual In-

surance, a committee of five was appointed to take into consideration the question of mutual insurance of wholesale drug stocks, with authority to employ skilled assistance and take such measures as they might agree upon for the formation of such a company. This was a move the Association might do well to look into, and if found feasible, steps might be taken to do something in the same. The National Wholesale Druggists' Association passed a resolution condemning the practice of combinations of retailers, who, by such associations, purchase of manufacturers the necessary amount of their medicines at the wholesale rates, and then at stated periods divide profits arising, thus indirectly violating both the spirit and intent of the contract plan, and asked proprietary medicine manufacturers to decline to fill any orders received from such combinations. The resolution may have been a proper one from the side of the wholesaler, but had they gone a little further, and passed a resolution "condemning the practice of retailing goods at wholesale prices on any and every occasion as unmercantile and unworthy the honorable calling of a jobber" at the same time, it would seem more in a spirit of fairness and equity, and better calculated to secure that good will and fellowship so desirable between jobber and retailer.

The report of the delegates to the N. W. D. A.—Messrs. H. C. Porter, F. H. Masi, A. P. Brown, T. J. McMahan and E. A. Sayre—would be found to contain much of interest. The majority of the State Associations had favored the proposed reorganization plan. All business now on hand should be settled up, and the Association should reorganize in the strongest manner. It would be necessary to decide whether county and local associations are to have representation as well as States, or only States. One of the finest and best organized associations in the country to-day is the San Francisco branch of the N. R. D. A. (In California they have no State Association, and owing to the scattered population it would be next to impossible to get one) The Association spoken of is only a local Association, numbering over 100 members. They had heartily approved the proposed plan, but as they were unable to send delegates he did not think the Association would be justified in allowing them representation. A fair means of representation would be to allow one delegate for each association having a specified number of members, and an additional delegate for a specified number of members. The plan of reorganization by State delegates was most favored. The opinion of the majority present was that the A. P. A. should be reorganized, and it and the N. R. D. A. merged into one. There were many reasons why this should be done. The argument that the Association was merely a scientific body was fallacious. Science and commerce in pharmacy had to go hand in hand to secure success, and commercial success was the first necessity. Individual persistent action was needed to secure the repeal of the U. S. retail liquor tax. In conclusion, he thanked the Association for the honor done him.

The annual reports of the Secretary, Treasurer and Executive Committee were presented. The present membership of the Association is 3,152, and the balance in the treasury $115.97. The reports were received and ordered printed.

The Committee on Credentials appointed; consist of Leo Eliel, South Bend, Ind.; Thomas D. McElhenie, Brooklyn, N. Y., and W. W. Bartlett, of Boston, Mass.

The report of the Committee on Special Legislation was presented and placed on file.

The President read the report of the delegates to the National Wholesale Druggists' Association at Philadelphia, which was referred to the Committee on the President's Address, consisting of Messrs. Alexander, Canning and Thompson.

The session then adjourned to 2 o'clock.

AFTERNOON SESSION.—The afternoon session was called to order at 2:45 P. M. The report of the Committee on Credentials was read by Mr. McElhenie and accepted.

The report of the Committee on President's Address was essentially embodied in the following resolution:

Resolved, That the resolutions adopted by the National Wholesale Druggists' Association, with the exception of printing circulars, be adopted by this body.

Resolved, That a committee of three be appointed to confer with the National Wholesale Druggists' Association, to report some feasible plan of insurance.

The report was received, and the resolutions adopted.

The Committee on Reorganization reported that they heartily favored the proposed plan of reorganization, and this belief had been greatly strengthened by the favorable action taken by many State Associations after the issuance of circulars. State Associations only were communicated with, and of these there were thirty-two. Twenty States have indorsed the plan, viz.: Alabama, Arkansas, Connecticut, Iowa, Kentucky, Louisiana, Massachusetts, Minnesota, Missouri, New Hampshire, New Jersey, New York, Rhode Island, Texas, Virginia, Wisconsin, Indiana, Kansas, Michigan and Nebraska. The indorsement of the sixteen first named was given by a vote of approval, and the latter four by the election of delegates to this body. Seven States, namely, California, Georgia, Minnesota, North Carolina, South Carolina, Tennessee and Vermont, have not been heard from. Three, Ohio, Pennsylvania and Illinois, discussed the plan, but took no action. Maryland deemed reorganization not feasible, and West Virginia has not yet held its meeting. This completes the list, as Delaware, Florida, Maine, Colorado, Nevada and Oregon have no State Associations. Thus encouraged by the almost unanimous indorsement of the State Associations by whom the matter was considered, the Committee agreed to recommend the following action:

Resolved, That a committee of five be named by the President; that said committee prepare a roll of such persons as are present as delegates from Pharmaceutical Associations; that thereupon this Association adjourn *sine die*, and the chairman of said committee shall call said delegates to order and preside over their deliberations until a permanent organization is effected.

Resolved, That said committee be empowered to close up the financial and other affairs of this Association, and present its report to the reorganized body.

After a spirited discussion the resolutions were unanimously adopted, and Messrs. Nicot, Canning, Kennedy, Alexander and Hollister were appointed the committee of five, after which the Association adjourned *sine die*.

After a lapse of fifteen minutes Chairman Nicot, of the special committee, called the convention to order, and Secretary Colcord read the list of delegates.

On motion it was decided that a National Retail Druggists' Association be organized, and that a Committee on Constitution and By-Laws be appointed. Messrs. Sayre, Munds, Masi, Upson and Munson were appointed such committee.

Messrs. De Forest, Thompson, Vansant, Alexander and Hollister with the Executive Committee, and ex-officers of the N. R. D. A. were appointed a Committee on Nominations. A Committee on By-Laws was also appointed to report to the meeting at the morning session.

The following delegates were accepted by the Committee on Credentials:

Massachusetts Pharmaceutical Association—C. B. Emerson, J. H. Canning, S. A. D. Sheppard. New York—H. J. Menninger, C. H. Sagar, J. B. Todd, T. J. McMahan, E. H. Davis. Missouri—H. M. Whelpley, J. M. Good, J. S. Baker, G. H. Klie, J. H. Morrison. Iowa—Dr. Rosa Upson. Illinois—H. Shroeder, J. E. Espey, P. B. Keyes, W. N. Benton, H. S. Maynard. Kentucky—C. L. Diehl, R. B. Peyton, H. H. Rademacher. Wisconsin—A. H. Hollister. Virginia—T. Roberts Baker, F. H. Masi, J. W. Thomas, Jr., W. F. Ingram, C. A. Santos. Texas—E. W. Lancaster. New Hampshire—Robert C. Dickey, A. S. Dolloff. Nebraska—W. A. Harding, W. B. Shryock, N. A. Kuhn. New Jersey—R. H. Vansant, R. W. Vandervoort, J. G. Howard. North Carolina—James C. Munds. Connecticut—L. I. Munson, E. A. Gessner. Kansas—W. C. Sears, M. I. Stone, R. J. Brown, George Lees, R. S. Drake. Indiana—J. H. Andrews, David Hilt, George W. Sloan, J. N. Hurty, J. K. Lilly. Kings County, (N. Y.)—L. E. Nicot, D. F. Stevens, W. P. De Forest, W. M. Davis, T. D. McElhenie. Manufacturers and Dealers in Proprietary Medicines—Thomas F. Main, Bowles Colgate, C. J. Hood, D. Arnold, E. R. Dawley, L. W. Warner, John

Hodge. National Wholesale Druggists' Association—George J. Seabury, William B. Blanding.

The Association then adjourned till 9 P. M.

SECOND DAY MORNING SESSION.—The meeting was called to order by Chairman L. E. Nicot, after which delegates presented their credentials, and the roll was called by the Secretary. The Committee on Constitution and By-Laws presented their report subject to the revision of the Executive Committee. The chief change in the constitution was a provision that each Association of twenty-five members was entitled to one representative, and one representative for each additional 100 members. After considerable discussion it was moved that this clause be amended to provide that any association of 100 members or less be entitled to a delegate, in order that the small associations over the country, and particularly in the West, should not be left out. The question whether any association not numbering twenty-five would be willing to pay the tax of $10 provided to be paid for each delegate in attendance, and it was moved that the number be fixed at five instead of twenty-five. The proposed draft was amended to provide that State organizations with twenty-five members or over be entitled to one delegate, and one for every 100 additional or fraction; and that in States where no State Associations existed, local associations should be entitled to representation on the same basis The Constitution as a whole was then adopted as amended, subject to the revision in minor matters of the Executive Committee.

The committee appointed to close up the affairs of the National Retail Druggists' Association, reported through Chairman Nicot, that the balance on hand was $132.32. The three salaried officers were paid up to 1883; for 1884 the salaries due amounted to $300. For 1885 no salaries had been fixed, the officers had served without pay, and their salaries were implied obligations. These creditors had waived their claims and the Society was not in debt. A vote of thanks was tendered to Messrs. Colcord, Eliel, Sayre and Wells who had so unselfishly worked for the interests of the Association. On motion, the remaining funds in the treasury were paid over to Treasurer Masi

The Committee on Nominations then made their report, making the following nominations:

President—A. H. Hollister, of Wisconsin.
First Vice President—M. W. Alexander, of Missouri.
Second Vice President—P. C. Candidus, of Alabama.
Secretary—L. E. Nicot, of New York.
Treasurer—F. H. Masi, of Virginia.

The report was adopted, and the Secretary instructed to cast the ballot of the Association.

Messrs. De Forest and Baker were appointed to escort the newly elected officers to the platform. President Hollister briefly expressed his gratification at the honor conferred upon him.

The newly elected Secretary called the roll of delegates directing those to respond who had been instructed by their Association to subscribe on the new basis. On motion of Mr. Sayre, Messrs. Sayre, Nicot, Hollister, Baker and Dr. Upson, and the Executive Committee, were appointed a committee with power to confer with the A. P. A. with regard to its reorganization, if the initiative should come from it. Messrs. T. H. Canning, of Massachusetts; T. J. McMahan, of New York and H. I. Leith, of Rhode Island, were appointed on Executive Committee. Messrs. Wansant, McMahan and Kuhn were appointed a Committee on Exhibits. After passing the usual vote of thanks the Association adjourned subject to the call of the Chair.

A specimen of a Chicago prescription is astonishing the natives of a suburban town. It is deemed so great a curiosity that it has been the subject of copious illustrations, and in the language of the "nerve food man," has created more excitement in the rural district "than the steamboat or the telegraph." Since the interpretation of the questionable item is quite simple—syrup simplex—it proves that cane sugar is still used in Chicago, contrary reports notwithstanding.

The sale of hopeine for hopeine beer has been interdicted by the Austrian government. Keeping the article in stock or dispensing same by pharmacists is also strictly forbidden. This measure, it is stated, has been taken because the article known as hopeine is a mixture of morphine and another alkaloid in smaller proportion neither of which are found in hop either "arizona" or domestic. According to an English journal the identity of this second alkaloid was established in England to be cocaine the credit for which discovery has been claimed by German chemists.

THE ILLINOIS COLLEGE OF PHARMACY.—The new department of Pharmacy of the Northwestern University is one of the most substantial and valuable additions to the professional schools of the city of Chicago. Students of pharmacy coming to this city will now have an opportunity to choose between two colleges, and after seeing both can make an intelligent choice. The laboratories and other instruction rooms of the Illinois College of Pharmacy are now open to visitors. A new feature announced by the new college is its course of special lectures, which are to be delivered by well-known members of the faculties of the colleges of medicine in Chicago. Another is the introduction of a special laboratory for practical instruction in dispensing.

CHICAGO DRUG CLERKS' ASSOCIATION.—An adjourned meeting of the Chicago Drug Clerks' Association was held Sept. 8 at the Chicago College of Pharmacy. A constitution and by-laws were adopted, setting forth the object of the association to be the "protection and advancement of the material interests of the drug clerks of the State of Illinois," etc.

The following temporary officers were then, on motion, made permanent: Wm. McDougall, president; first vice-president, Edw. Neuschaefer; second vice, C. Boukler; secretary, E. C. Scholer, 225 Thirty-first street; treasurer, Otto J. Hartwig.

A committee was appointed to receive information in regard to violations of the Illinois State pharmacy law, and to request the State Board of Pharmacy to co-operate with them in prosecuting the violators. The Association will meet hereafter on the first and third weeks of each month.

HALISH SATIVA ONCE MORE.—As Mr. A. M. T. (Ft. Recovery, Ohio) states, Mrs. W. C. Holmes makes the latest contribution to "halish sativa literature." From a sense of duty she sends the following receipts from a French specialist to afflicted females and will send the articles for $2.50.

UTERINE TONIC.—(INTERNAL USE.)

℞ Helonias Dioica.....	drachm	1
Ext. Ignatiæ Amara, (alcoholic).....	"	1
Ext. Faba Amara Rub..	"	2
Cashgar Leaves.....	"	4
Diosma.....	ounces	2
Inulin	"	2
Loaf Sugar.....	pound	½
Rum or Gin.....	ounces	4
Warm water to make	pint	1

Notes and News.

A sienna mine has been discovered in Lisbon, Me.

Hungary's new pharmacopœia will be used in 1887.

Chloral hydrate is used in Russia as a means of robbery.

The Amsterdam quinine works are threatened with suspension.

An English woman recently tried to commit suicide by swallowing soap liniment.

Medical and daily Californian papers are demanding the passage of a pharmacy law.

The marriage of the Chinese emperor is the cause of the recent advance in quicksilver.

The Cincinnati College of Pharmacy has become a department of the University of Cincinnati.

Honey made from belladonna flowers has caused much sickness in the vicinity of Dresden, Germany.

Zinc is said by Germans to be found in American dried apples. How it gets there it is difficult to say.

During the past year $150,000 worth of licorice root was shipped from Smyrna to the United States.

A sign-painter erroneously made a druggist's sign read: "Physicians' prescriptions carefully confounded."

Pasawintonime syrup is a great favorite in Kansas; pasawintonime is Indian for "Smile of the Great Spirit.

The income to the British Government from the patent-medicine tax has increased threefold in twenty years.

Thirty-three thousand tons of naphtha are floating down the Volga from vessels destroyed in the spring by ice.

The Irish pharmacy act, regulating the sale of poisons passed in 1875, is now being enforced for the first time.

In Mr. Staadt's article on Dumas in the WESTERN DRUGGIST, August, Poyer should read Payen and "Ill.," "Ia."

It has been decided in England that an employer is not responsible for the sale of liquor on his premises by employes.

An English patent-medicine seller informed her customers that the medicine would not hurt anybody if they took the bottle.

One hundred and fifty tons of snuff are annually consumed in Atlanta, Ga. It is the third largest snuff market in the world.

A St. Louis pharmaceutical thesis opened with the statement that: "Blue vitriol is a medicine used as a re-agent in the laboratory."

Seed-bearing croton trees have proven fatal to horses, and in Ceylon hedges of them are used to prevent incursions of buffaloes.

The New Hampshire Pharmaceutical Association held its 13th Annual Meeting at the Hotel Windsor, Manchester, N. H. Sept. 14, 1886.

The "Southern Druggist and Home Doctor" is the latest venture in "house organ" pharmaceutical journalism and probably the most discreditable.

The Australian intoxicant, pituri (Duboisia hypwoodi) is said to be found only in one stretch of Australia, thirty miles in length. It is chewed into a pulp, and ashes added to it, after which it is rechewed several times. It is then ready for use as an article of commerce between the Australian tribes. On these it seems to have the same effect as alcohol.

Phosphorus-necrosis of the jaw is becoming quite common in England in consequence of popular self-prescription of phosphorous as a brain renovator.

The "Pacific Record of Medicine and Pharmacy," conducted in English and Spanish, a new corner in journalism, presents a neat appearance and is ably edited.

Mr. Chatin, the former director of the Paris College of Pharmacy and the cause of the late riot thereat, has been placed on the retired list as he is over seventy.

A case of fatal cocaine poisoning from the local application to the gums for toothache of a 4 per cent. solution of cocaine muriate has recently been reported.

An English chemist dispensed carbolic acid for a bismuth subnitrate solution. The man died, but no evidences of carbolic poisoning were discoverable on autopsy.

The hypodermic morphine habit is being spread by trained nurses who teach patients how to use the hypodermic syringe, in order to avoid trouble themselves.

In Holland nineteen out of thirty-one lady applicants passed the State pharmaceutical examination, while only eight out of twenty-four male applicants succeeded.

An article on "Training Young Men for the Drug Business," which has been extensively copied, gives the name of the author, as Mr. C. B. Flint, instead of C. B. Fleet.

Wallace, Malay Archipelago found that birds got so drunk from a diet of nutmegs that they were readily taken. Nutmegs have recently been found to produce dangerous narcotic symptoms.

Where delay in delivery of goods by common carriers is caused by violence of strikers the carriers are not legally responsible. If the delay be due to simple refusal to return to work the carriers are liable.

A "botanic" beer which had received the commendation of the leading English apostles of total abstinence was found by the analyst of the English Inland Revenue Office to contain 23 per cent. of proof spirit.

Dr. Cresswell Hewett, of Liverpool, claims to have discovered a method of making quinine artificially for about six cents an ounce. The discovery was made through the accidental breaking of a medicine bottle.

In 1628 the corpo ation of Youghal, Ireland, permitted a man to open a pharmacy because he married a "freeman's wife." It is obvious that the German custom of restricting the number of pharmacies existed at that time in Ireland.

It is said that "gin-mill drug sellers compete with regular pharmacists in Kansas by issuing hand bills offering to partake of every medicine sold by them as a test of purity." Considering the quality of the chief remedy (whisky) sold by them this is a decidedly heroic offer.

In the store of Peter Van Schaack & Sons stands a headless wooden figure of a negro. This is a relic of the Charleston bombardment. Thirty years ago it stood in front of Mr. Van Schaack's store in Charleston, S. C. which was known in the vicinity as the drug store with the sign of "Old Tom, the negro, and the golden mortar."

A shell from the Swamp Angel carried off "Old Tom's" head and part of his arms. After the war "Old Tom" was transferred to Chicago in time to escape total destruction by an earthquake.

Japan when opened to European civilization had but eleven intoxicating drinks. Now the drinks common to Europe and America are sold; none of these equal in intoxicating effects *saki*, the original rice brandy sold in Japan before Europeans entered her ports.

France has 2,000 medicines in its Pharmacopœia; Spain and Belgium, 1,500; Russia, 1,080; Greece and Switzerland, 1,040; United States, 1,010; Great Britain, 815; Sweden, 746; Denmark, 720; Holland, 665; Germany, 606; Austria, 560; Hungary and Roumania, 545; Norway, 530.

Since it has been shown by Cantani that microbes can be employed in therapeutics, one variety of the numerous family destroying others when brought in contact with them, it will, the Medical Age thinks, perhaps only remain for the physician to keep a standing army of the proper kind of microbes and mass them at that point in the organism to which the enemy has laid siege.

The following papers will be read before the German Pharmaceutical Congress: "The Present Position of Alkaloid Research," by Prof. Schmidt, of Marburg; "Ptomaines," by Dr. Beckurts, of Brunswick; "Tests of Pharmaceutical Preparations," by Mr. Schlickum, of Wiringen; "Thallin," by Dr. Vulpius, of Heidelberg. Drs. Leaken and Bellingrodt have also promised papers.

Nothing is clearer than that the merciful Creator intends to blind most people as they pass down into the dark valley. Without very good reasons, temporal or spiritual, we should not interfere with His kind arrangements. It is the height of cruelty and the extreme of impertinence to tell your patient that he must die, except you are sure he wishes to know it, or that there is some particular cause for his knowing it.—Dr. O. W. Holmes.

The Académie des Sciences has a laboratory in Paris for testing the quality of food and drink sold in that city. Specimens of wine, beer, cider, milk, chocolate, coffee, tea, etc., are examined, colors used in toys and in confectionery, pork suspected of being affected with trichinosis, etc. Analysis to determine whether the article presented is free from adulteration is made without charge, but a small fee is charged if it is required to determine the proportionate composition. There are twenty inspectors who visit taverns and groceries, provided with microscope and simple chemical tests, and examine many articles of merchandise on the spot, only taking to the laboratory such articles as afford some evidence of adulteration. Twenty-five chemists are connected with the laboratory, each one having his own department. About 25,000 samples are analyzed annually at an expense of about $40,000.

We are glad to report the arrest and conviction of James Crosher, the notorious swindler, who has systematically preyed upon the drug trade for years, but has until recently escaped the penalty of his nefarious business. The thanks of the trade, and the public, are due to Messrs. John Wyeth & Bro., of Philadelphia, for bringing this man to justice, though we think his sentence was light, when considering the enormity of his offence and persistent frauds for years. He was convicted for imitating the well known preparation of the Messrs. Wyeth's "Beef, Iron and Wine." The above firm employed detectives for nearly a year before they could obtain evidence necessary to convict him. Four of the gang were arrested, one turned State's evidence, two are under bail for trial—Crosher being the only one as yet tried, he pleaded guilty before Judge Moore, of Court of Sessions, Brooklyn, N. Y., was sentenced to three months in the penitentiary, and $200 fine, if unpaid to remain 200 days longer in prison, having already been in Raymond street jail for six weeks pending trial. We think the drug trade are to be congratulated upon the arrest, conviction and sentence of this man.

Along with the discovery of the liquefaction of gases and its practical application, we note an interesting feature from a foreign exchange. The desirability of obtaining carbonic acid in the liquid form for aerating beverages, etc., led to its manufacture abroad several years ago with more or less success. Recently, however, its manufacture has received great impetus in that the "acid" has been found as an exhalation from the earth in the neighborhood of Lake Laach, Germany, in sufficient quantities to warrant its collection. This acid, which possesses great purity, is compressed into iron cylinders, and these may then be transported any distance. Should liquified carbonic acid become a general article of commerce, the aerating of water and other beverages will be a very simple operation, as the addition of a small quantity to any liquid will at once give it the characteristic sparkling quality.

Recent Patents, Trademarks, Etc.

The following summary of patents, trademarks and labels recently granted (August 8 to 31) relating to pharmacy and chemistry has been compiled especially for the WESTERN DRUGGIST by Henry Wise Garnett, attorney and counselor in patent cases, Washington, D. C., of whom copies and information may be had:

PATENTS.

346,477.—M. W. Hobbs, Richmond, Va., Inhaler.

347,018.—Capsule Filling Machine, R. Walsh, Washington, D. C.

346,274.—Capsule Stripping Machine, J. Krehbiel, Detroit, Mich.

346,909,—Inhaler, W. H. Hammersley, Catasauqua, Pa.

347,288.—Purifying paraffin and extracting oil from oleaginous material.

347,731.—Making Alcohol, C. Ordonneau, Paris, France.

347,378.—Cradle for Carbonating mineral waters, A. D. Puffer, Medford, Mass.

348,348.—Chlorine producing, G. Rumpf, Prussia.

348,483.—Phenyl-methyl oxyquinine manufacture of H. Von Perger, Austria.

348,227.—Receptacle for Poisons, T. Mayhew, New York, N. Y.

TRADE MARKS.

13,547.—Tonic remedy, the words "Acid Iron Earth," Acid Iron Earth Co., Mobile, Ala.

13,550.—Catarrh Cure, the word "Permangaline," J. M. Hedges, Pittsburg, Pa.

13,558.—Pills, the word "Farmers," Weedon Deut, Eufaula, Ala.

13,562.—Female Disease Compound, the word "Germacide," J. E. Markle, Winchester, Ind.

13,579.—Carbonate Beverages; the word "Ironade," C. Beck, Baltimore, Md.

13,588.—Hair Tonic; the word "Boko," W. Y. Varin, Indianapolis, Ind.

13,589.—Pennyroyal Pills; the word "Chichester's English," Chichester Chemical Co., Philadelphia, Pa.

13,622.—Unguent or Salve, the arbitrary word "Lanoline," Benno Jaffe and Darmstaedter, Charlottenburg, Germany.

LABELS.

4,941.—"Lyon's Face Powder," Whitney Lyon, Brooklyn, New York.

4,933.—"Vegetable Nerve Food," S. P. Clark & Co., Attleboro, Mass.

THE WESTERN DRUGGIST.

VOL. VIII. No. 10. OCTOBER, 1886. Subscription Price, $1.00 per annum. G. P. ENGELHARD & CO., Chicago.

GUARANA.—METHODS FOR ITS ASSAY AND THE ASSAY OF ITS FLUID EXTRACT.*

BY H. W. SNOW, PH. C.

In the American Journal of Pharmacy (1875, p. 135,) E. S. Wayne proposed a method for the extraction of caffeine from tea and coffee, claiming it to yield very high results of a pure white alkaloid. Later on F. V. Green (Amer. Jour. of Phar., 1877, p. 337) applied the process to Guarana as a method of assay. J. H. Feemster (Proc. A. P. A. xxx, 569) more recently has also recommended this method as a practicable assay process, and suited for pharmaceutical purposes. The criticism which the writer would offer upon it is chiefly the length of time required to complete the operation, and also as compared with the process hereafter described, gives lower results indicating a less perfect exhaustion of the drug. In the boiling with litharge several hours are consumed, which, followed by filtration, washing, removing the lead, etc., extend the examination over the greater part of two days and occasionally longer, requiring also considerable attention during the whole of that time. Any process then, which can be begun late in the afternoon of one day and finished easily in four or five hours the next day would, all other things being equal, recommend itself to all who are engaged in making a number of pharmaceutical assays each day. But particularly would it be desirable when along with rapidity we get a more perfect exhaustion of the drug.

The process which the writer has to suggest is not new except in its application to this drug, being the same as that proposed by A. B. Lyons for the assay of nux vomica (Drug. Circ. 1886, p. 137) and which applied to this drug is briefly described as follows: Place five grammes of the drug in a small flask holding about 100 C. c. or 120 C. c., introduce 44 C. c. of chloroform, cork and shake, then add 6 c. c. of a mixture of alcohol 6 volumes, and stronger water of ammonia, 1 volume; again shake vigorously and set aside with frequent shaking during several hours, or allow to stand over night. Then filter rapidly through a small dry filter paper, four inches in diameter and receiving the filtrate in a vessel graduated to 40 c. c. (corresponding to 4 grammes of drug) until it reaches the mark, evaporate the chloroform and treat the residue with a little water and filter through cotton, afterward passing the liquid through an ordinary filter and using the wash water from the cotton filter as wash water for the second filter. Washing should be continued until the washings cease to precipitate with phosphomolybdic acid.

The operation of filtering and washing does not take much time, and if the cotton filter clogs it is easy to stir up the insoluble waxy or fatty matter so as to permit the liquid to pass through. The aqueous liquid which will usually measure 40 c. c. to 50 c. c. is next placed in a separator and washed with successive portions of chloroform, or until the aqueous liquid ceases to precipitate with phosphomolybdic acid. Two washings are generally sufficient, though the operator should test for the alkaloid before discontinuing the washing. The chloroformic solution is now evaporated in a weighed beaker and the residue dried at 100° C. for half an hour, cooled and again weighed. The weight in grams multiplied by 25 gives the percentage of alkaloid. This process gives somewhat higher results than that of Green, which in a sample of guarana showed 4.14, duplicate 4.28%. The same drug assayed by the above process showed by four different assays 4.64%, 4.66%, 4.84%, 4.89% of caffeine. The writer also tried Prollius' fluid for the assay of cinchona barks, but without success, the same drug as above showing only 3.97% of alkaloid. Ether is not so well suited for the extraction of caffeine as either benzole or chloroform, owing to the comparative insolubility of the alkaloid in that menstruum. Ammoniated ether and ammoniated chloroform were both tried for the extraction of caffeine from Kola nuts yielding in the one case 1.34% and in the other 1.45% of alkaloid.

The National Dispensatory (3d. edit. p. 369,) credits E. Hosack (1883) (the writer has not been able to consult the original paper) with the statement that commercial fluid extracts of Guarana yielded only 1.10% to 1 68% of caffeine, while the average of the above fluid extracts is 3.33% or practically double the highest estimate given by Mr. Hosack. The experiments of J. H. Feemster already referred to show that Guarana assays on an average 4.32%, so that the fluid extracts shown in the table hereafter fall considerably short of perfect exhaustion of the drug.

In The New Idea the writer gave the results of a number of assays of fluid extract of guarana which will probably be of interest here. The process employed was practically as follows: Evaporate 5 c. c. of the fluid extract to dryness with about one ounce of litharge, powder, introduce into a flask of about 120 c. c. to 150 c. c. capacity, and pour in 100 c. c. of chloroform and shake repeatedly during three or four hours; finally filter through a dry filter paper containing some magnesia to remove suspended particles of insoluble matter; 80 c. c. of filtrate corresponding to four cubic centimetres of the fluid extract, are then evaporated to dryness, dried one half an hour at 100° C., cooled and weighed.

The weight in grams multiplied by twenty-five gives the percentage of alkaloid extracted from the drug, and this percentage divided by the specific gravity of the fluid extract gives the percentage in the latter. The above gives results agreeing with those contained in the same fluid extract by using

*Read before the Amer. Phar. Asso. in September, 1886.

Green's method slightly modified. Applying the above process to a number of commercial fluid extracts results were obtained as shown in the following table:

No. of sample.	Sp. Gravity.*	Per cent. of alkaloid extracted from the drug.	Per cent. of alkaloid in the fluid extract.	Grains of caffeine in each fluid ounce.
1.....	1.0227	2.70	2.69	12.35
2.....	1.0182	2.75	2.70	12.55
3.....	0.9587	2.72	2.84	12.44
4.....	0.9947	2.93	2.94	13.36
5	0.9536	2.99	3.13	13.67
6	1.0409	3.57	3.42	15.29
7.....	0.9848	3.40	3.45	15.51
8	0.9797	3.52	3.60	16.08
9	0.9508	3.70	3.89	16.88
10†.....	1.0515	4.85	4.61	22.13
Average.	0.9856	3.31	3.33	15.03

A process which should be more economical as regards time and chloroform, of which considerable is required in the former processes, suggested itself to the writer. The well known power of slaked lime in removing organic matter from solution might be employed with advantage, and as a result the following process was elaborated and found to be most satisfactory.

Fifteen C. c. of fluid extract are placed in a small flask, 30 c. c. of distilled water are added, and the mixture shaken up with two grams of slacked lime. The mixture is filtered through a small dry filter paper four inches in diameter and 15 c. c. of the filtrate (corresponding to 5 c. c. of fluid extract) is neutralized with a few drops of dilute sulphuric acid, avoiding an excess, and evaporated to dryness, the residues digested with a little water, filtered, washed until the washings cease to precipitate with phosphomolybdic acid; rendered alkaline with ammonia, repeatedly washed with chloroform three times, and evaporated, etc., etc. This last method gives higher results than the first mentioned process and corresponds more nearly with the ammoniated chloroform process for the drug.

All the above processes yield the alkaloid in a pure white mass, and though as yet no definite experiments have been performed to show that it is wholly alkaloidal, there seems little or no doubt but that the mass is so. Experiments to prove absolutely that this is the case must be reserved for a future paper.

A TEN-MINUTE PROCESS FOR MERCURIAL OINTMENT.

BY C. S. HALLBERG.

The various expedients employed in the preparation of mercurial ointment for the purpose of shortening the time required in extinguishing the mercury is so familiar as to scarcely require mention. The present official process, while probably as good as any offered at the time of the revision of the Pharmacopœia, leaves yet much to be desired.

With the introduction of wool-fat as an ointment vehicle it was suggested to the writer that this fatty body would be a great aid in extinguishing the mercury in the preparation of mercurial ointment, and upon trial the result was more satisfactory than could possibly have been anticipated. Five grams of mercury briskly triturated in a mortar for ten minutes with 1.5 of purified wool-fat (*oleum lanæ*, kindly furnished by Dr. John Ritter) was completely extinguished; 3.5 of petrolatum was then incorporated, the resulting product being an ointment containing 50 per cent. of mercury, in which the globules were not visible with a magnifying power considerably greater than that required by the U. S. Pharmacopœia.

The petrolatum was substituted for the fats officially directed in order to equalize the absorbability of the ointment.

Wool-fat, as is well known, is absorbed with wonderful rapidity by the skin, and a mercurial ointment prepared from this fat alone, or even in part, might lead to serious consequences through the too rapid absorption of mercury. Petrolatum, on the other hand, is scarcely absorbed at all, and by employing the proportions as indicated, the degree of absorbability of the ointment was balanced so as to approximate that of lard. The wool-fat employed constitutes 15 per cent. of the ointment, and is amply sufficient to effect the division of the mercury.

In comparing the ointment thus made with a specimen purchased from a dealer, a great difference was observed. While the first mentioned, when exhibited to the light, in a thin layer, and examined by a lens, was found to be perfectly opaque, the commercial specimen under the same conditions appeared translucent with here and there a black speck suggesting a mixture of "petrolatum and black lead."

In view of the difficulty of obtaining a reliable mercurial ointment, not to say of pharmacopœial strength, the above process whereby a pound or two may be prepared in a mortar in a very short time, may be of value.

DETERMINATION OF MELTING POINTS.*

BY HENRY C. C. MAISCH.

A pharmacist has many compounds of different properties to work with. A method for the determination of melting points used with one of those compounds may work well, while it can be used in few others. We must consequently use a method which best suits the subject under consideration; thus phosphorus could be melted under water, while the different camphors can be melted on mercury.

From the above remarks it is easily seen that the best manner of treating the subject of melting points would be to class those articles together whose melting point could best be determined by

*Specific gravity was taken at the temperature of the work room (26° C.) compared with water at the same temperature.

†This was a fluid extract which had evidently been standing for a considerable length of time in a nearly empty bottle, which probably accounts for its unusual strength.

*Read at the meeting of the Am. Pharm. Assoc., Sept. 9, 1886.

the same method. The headings under which I propose to consider the difierent methods are as follows: Class I. Camphors, Resins, Waxes and Alkaloids; Class II. Fats; Class III. Subjects not easily oxidized; Class IV. Subjects easily oxidized in contact with air.

Class I. Camphors, Resins, Waxes and Alkaloids.

The method which I would advise being used for this class is the following: A small beaker is filled two-thirds full of mercury, into which a thermometer is suspended so that the mercury just covers the bulb of the thermometer. A small quantity of the article under examination is placed directly on the mercury and kept as close to the thermometer as possible. Heat is then gradually applied so that the rise of the mercury in the thermometer does not exceed two or three degrees Fahrenheit a minute. When the first indications of melting are visible, note the number of degrees and carefully regulate the heat so as to keep the temperature stationary at this point for a little time, to see if the whole quantity will melt. If the article under examination does not melt completely, again very carefully apply heat until the whole quantity is melted to a transparent liquid. The temperature at which this takes place can be regarded as the melting or fusing point near enough for all practical purposes, though, if greater accuracy is required, it is first necessary to examine a body with a known melting point, under the same conditions as are those when examining the body with the unknown melting point. We obtain thus the ratio of variation in this particular instance, and the required melting point can then easily be obtained from the given data. This comparison can be used in all subsequently named classes.

Class II: Fats.

The above method can be used here also, but it will not give such satisfactory results as the following: A small, thin glass tube is drawn out very fine, and the melted fat then sucked up into the tube, the capillary portion of which is melted to a point. The part to be used is then laid aside for two or three days in a cool place. The tube is attached to a thermometer by means of a rubber band in such a manner that the capillary portion is as close to the bulb of the thermometer as possible. The apparatus is then placed so that the liquid, either water or sulphuric acid, just covers the bulb of the thermometer. Now gradually apply heat, being careful about the rise of the mercury in the thermometer. The melting point is that degree at which the column of fat is transparent. Another method is to have the capillary tube open below, and noting the temperature at which the fat is pressed upward in the tube. This latter method does not give as accurate results as the former, some fats becoming entirely soft before they are melted, but it can be used to good advantage in determining of the melted points in some resins.

Class III: Subjects not easily oxidized.

The method given under Class I. can be used here, but only in such cases where no reaction takes place. Where this method cannot be used we must resort to the sand-bath and a thin porcelain capsule. The temperature registered by the thermometer will be several degrees too high; as a correction we can use the comparison mentioned under Class I.

Class IV: Subjects easily oxidized in contact with air.

Subjects under examination, like sulphur, phosphorus, and others which easily burn or oxidize, or in which there takes place dissociation or other chemical change when heated in air, must be melted in some liquid in which the article under examination is not at all or only very slightly soluble, and with which no chemical decomposition takes place. The best manner in which to apply this method is to suspend a piece of the substance in the liquid, and keep the bulb of the thermometer as close as possible to it. This method has been tried by Gerardin (Compt. Rendus, 1863, LIV.,1,083) with sulphur and phosphorus in different media, and the melting point was found to be invariably 111.5° C. and 44.3° C. respectively.

At various times descriptions of apparatus for the determination of melting points have been published. Dragendorff ("Analyse der Pflanzen," 1,213) does not apply heat directly to the beaker spoken of under Class I. He allows the rim of the beaker to rest on the top of a filter dryer, and covers the whole with a bottle, the bottom of which has been taken out. The thermometer is suspended through the neck of the bottle, and is there fastened by a cork. The whole apparatus stands on an iron plate, the filter dryer being of such a height that the beaker does not rest on the plate. Heat is now applied gradually to the iron plate, carefully regulating the temperature.

Another form of apparatus has been described by Gustav Oldberg (Rep. d. Ana. Chem. 1886, 94). The apparatus consists of two glass tubes of different diameters. A bulb is blown into one end of the narrower tube, and the tubes then connected above and below with each other by two glass tubes, the upper one being the wider, and being attached somewhat slant. The apparatus is then filled with water or some other liquid so as to almost fill the upper connecting tube. A thermometer with the subject under examination in a fine glass tube is then adjusted so that its bulb is in the bulb of the apparatus. The liquid in the apparatus is then heated gradually in the wide upright glass tube.

Authors vary very much in regard as to which point shall be taken as the melting point. F. Rudorff (Pogg. Ana., 1870, 140, 420) holds that the congealing and melting points are identical, and that the temperature at which the subject congeals shall be regarded as the melting point. Other authors, opposed to the foregoing, hold that the congealing and melting points are at different temperatures.

In conclusion, I would like to make a few remarks as to the value of the melting points given in the Pharmacopœia. Melting points should not be given in the Pharmacopœia, except in such places where they are necessary for testing the purity of articles, for example, in the cases of glacial acetic acid, oil of theobroma, petrolatum, etc. The melting points of the various alkaloids and several other articles are entirely out of place in the Pharmacopœia; these only belong to the textbooks.

Substances, according to Vomacka, may easily be incorporated with petroleum by adding a little wool fat.

THE OIL OF PEPPERMINT.—OLEUM MENTHÆ PIPERITÆ.

BY ALBERT M. TODD.

In the paper which I have the honor to present you the history of the plant will be briefly noticed, and attention directed to some characteristics of the essential oil as observed in the practical manufacture, some being of such phenomenal nature as to invite further investigation.

Mentha piperita, from which the true oil of peppermint is derived, was first introduced or noticed at Hertfordshire, England, and given the name "Pepper-mint" by Ray in his Historia Plantarum, published in 1704. Its commercial history dates from about the year 1750, when its cultivation was commenced in a very small way at Mitcham, in Surrey, England. Fifty years later the amount under cultivation was about one hundred acres, but the growers having had as yet no distilleries built, still continued to convey the plant to London for the distillation of the oil.

The industry in England reached its zenith about 1850, just one hundred years after its introduction, when the area cultivated was about five hundred acres, but owing to successful American competition, it was reduced during the next fifteen years to about two hundred and fifty acres. From personal observation when visiting the peppermint districts of England in 1875, I attribute the success of American competition to a more perfect system of distillation, and apparatus therefor, and (which I will again refer to) the more healthful growth of the plants in our country.

Distillation of oil of peppermint was first accomplished in America by a Mr. Burnett, in the year 1816, in the county of Wayne, State of New York, who collected on the banks of a little stream sufficient wild plants to produce about forty pounds of the oil. In the year 1835 the industry was established in Michigan, in St. Joseph county, on White Pigeon Prairie, about two miles north of a village of that name, a distillery being erected the following year. Up to this time and for ten years later the distilling apparatus used was very crude, being the same as had been used in England, with but slight modifications, consisting of a copper kettle in which the plants were placed immersed in water, to which direct heat was applied by a furnace from beneath, a condensing worm of the usual character being connected with the kettle by a pipe from its apex.

The year 1846 marks a new and important era in the evolution of a more perfect system of distillation, and the apparatus therefor, viz., that of distillation by the diffusion of steam through the plants, which were now for the first time placed in large wooden vats, to which steam was conveyed by a long pipe entering at the bottom, the kettle which had been used heretofore as the still being now used for the generation of steam. Distillation was now effected in a much more perfect manner, as the scorching of plants and the consequent formation of empyreumatic products was rendered impossible. Furthermore distillation could now be conducted with much greater rapidity and economy. The primitive stills had a capacity of about fifteen pounds of essential oil in the twenty-four hours, the new form a capacity of seventy-five to one hundred pounds. This system of steam distillation originated in St. Joseph county, Michigan, and was soon introduced into New York.

Briefly as to the cultivation of the plants: In early spring the ground having been plowed, is marked out in furrows two and a half feet apart. In these furrows are placed the roots and runners which have multiplied from the setting of the preceding year. One acre of good roots usually furnishes sufficient to set from five to ten acres of new ground. These roots and runners are from one-eighth to one-fourth of an inch in diameter, and from one to three feet in length when in the healthy state. In setting they are carried in large sacks strung over the shoulders of the workmen, who place them in the rows so that there shall be one or two living roots or runners at every point in the row. While placing the roots with their hands they at the same time cover them with their feet. It is quite an interesting sight owing to the queer motions of the workmen to see these roots planted. A good experienced workman, in mellow ground, with good roots can set about one acre per day. New plants appear above the ground about two weeks after setting, and are carefully hoed and cultivated until July or August, when if the season is fair, the plants have thrown out such a quantity of runners as to render further cultivation very difficult, and indeed unnecessary.

The proper time for distillation is when the plants are in full bloom. In the case of the "new crop," that is, the crop which has been set the preceding spring, this usually occurs in September. What is known as the "second crop" (which has sprung up spontaneously, from being the second year's growth) matures usually in August. For distillation the plants are cut down and allowed to dry for awhile in the sun before being drawn to the distilleries. Many growers, however, believing that a loss of the oil is sustained by diffusion in the atmosphere if the plants are fairly dried, bring them to the still in the green state. As distillation can be effected with manifold rapidity from dry plants, this question of thorough drying is one in which the owners of distilleries and the producers in general have long been greatly interested. For if the plants are brought in the green state it will require, ordinarily, about ninety minutes for distillation, with a yield of perhaps five to seven pounds of oil to the charge; whereas if thoroughly dried, distillation can be effected in about thirty-five minutes with the yield of from eight to nine pounds, since the dried plants will pack much more closely in the vats than the green ones. Each owner of a distillery on the average distills the crops of ten other growers with his own, charging therefor twenty-five cents for each pound of oil obtained, whereas in England the charge is made for each vat of plants, whatever the amount of oil produced.

The former method is much more equitable for the grower since if his crop is poor he is not obliged to pay an exorbitant rate per pound, the latter more equitable for the distiller since it requires as much labor to distill a charge of poor plants as productive ones, and as stated, much more when the plants are green.

To test the question as to whether a loss of essential oil occurred by diffusion in the atmosphere

when the plants were thoroughly dried, I made a careful experiment, the results of which may be found in the September number of the American Druggist, the dried plants used having been exposed to atmospheric action for six months and having been reduced by such exposure 49.4 per cent. in weight. As there are about fifteen thousand tons of the plants produced annually in America the settlement of this question is of material interest to owners of distilleries and growers; saving the former greatly in manufacturing, and the latter in transportation.

The average yield of essential oil varies greatly, according to the quality of the plants, depending mostly on the fact whether they are fine and well covered with leaves and blossoms (in which the essential oil is entirely contained.) The difference in quality of plants is so great that while from two thousand pounds of well-leaved plants I have distilled eighteen pounds of essential oil, but one and one-half pounds have been obtained in some instances from a like quantity of coarse plants, devoid of leaves. The average yield, however, is about one-third of one per cent. from green plants.

There are now in America about 175 small distilleries, where the natural oil is distilled. The average annual production in America for the last ten years has been about one hundred thousand pounds of oil. The average yield per acre of the crops of the first and second year is about eleven pounds; this would show an annual area under cultivation of about nine thousand acres.

As to the nature of the essential oil. Regarding this there are many tests which are so generally known as not to require notice at this time. Some of them may, however, be briefly stated. Oil of peppermint when freshly distilled, or when two or three years of age, if kept in well filled vessels, should dissolve readily in spirits in all proportions, making a clear solution without filtration. When a few drops of the oil are placed upon white paper and held over a lamp or gas jet, it should volatilize quickly and perfectly without undergoing change, or leaving any residuum. When three drops of peppermint are placed upon four grains of resublimed iodine (or such quantity as will thoroughly saturate, but not drown the iodine) there should be but a slight reaction, and what little vapor is produced should be almost invisible, becoming entirely so after having arisen about twelve inches above the mixture, the color of the vapor assuming a bluish cast. The color of the mixture in this test should be carefully noticed, which in the case of pure peppermint is of a brown, or brownish black color, the iodine dissolving slowly and imperfectly. If oil of turpentine, erigeron, fire weed, rag weed, or other terebinthinate oil is present there will be quite a violent reaction (according to the quantity of the adulterant) with the evolution of considerable heat; a red or reddish yellow vapor will be produced, of a rank odor, partaking considerably of the nature of the adulterant, and the mixture will change for a moment at least, to a bright violet. If the color of the mixture be most carefully noted, a very slight quantity of such adulterants can be detected. When to twenty-five drops of alcohol one drop of nitric acid sp. gr. 1.200 with one drop of pure oil is added there will be produced, within about a half hour a blue or bluish green color, which will remain permanent for a long time. Oil of Pennyroyal and Mentha arvensis produce no coloration. A much more intense coloration will be produced with one drop of nitric acid, if the strength as stated is mixed with fifty or sixty drops of the essential oil, without alcohol. Some specimens of oil of peppermint imported from Germany and England showed this test and mixture with Mentha arvensis. To make this test valuable, however to chemists and pharmacists they should first operate upon samples of known purity and notice the depth of coloration required.

Another test for the detection of Pennyroyal, which also indicates Mentha arvensis when in sufficient quantity, is the following: Take one dram c. p. each chloral hydrate and sulphuric acid, adding twelve drops of alcohol. When this solution is mixed with a like quantity of pure oil of peppermint, a dark cherry color is quickly produced and maintained for a long time. Pennyroyal or oil of peppermint heavily adulterated with this oil gives no such color, being more of a yellowish cast, and changing to an olive green.

When the test is applied to pennyroyal a dull color is produced, changing to olive green. With Mentha arvensis a yellowish brown color is produced which is maintained for ten or twelve hours and thirty-six hours later has a slight tendency to the cherry color, or being intermediate between the cherry and the brown. It was noticed that when the true oil of peppermint was mixed with equal proportions of the Mentha arvensis a deficiency in the intensity of the cherry color was plainly noticed. Whether the significance which I have discovered in those tests showing the similar reactions in pennyroyal and Mentha arvensis has a bearing on the chemical relationship of the oils which the botany of the plants show, is a question of interest.

I will now refer to the two physical tests, those of specific gravity and boiling point, in which the results of my experience, vary greatly from the tests published in official and standard works.

The difficulty which scientific men seem to have experienced in establishing accurate tests for the purity of essential oils has been that they could not conveniently obtain the plants from which they themselves could distill any specimens used in their investigations; and while undoubtedly every precaution possible was taken, the result shows that they have in many instances operated upon impure samples; and although pure specimens undoubtedly were in some instances received, having no positive knowledge *per se*, which were pure and which were impure, too great a range of differences has been allowed in physical characteristics and chemical reactions. In correspondence with some well known chemists they give it as their opinion that a wide range of specific gravity, etc., might result from variations in soil and climate. On account of this we took greater pains to verify our determinations by testing samples grown under varying conditions of soil and climate, both in Europe and America. Forty-three samples were examined, including oils produced in St. Joseph, Wayne, Ionia, Hillside and Kalhaska counties, Michigan, Wayne county, New York, and vicinity (all of which were produced from American roots long acclimated) also one specimen grown in America from roots imported from England, and one specimen grown

and distilled in England. The sp. gr. has been variously stated in the Dispensatories and other standard works at from .840 to .950 at 60 degrees F. But there were none of the samples which were pure which has sp. gr. below .910 at 60 degrees F., except the two last mentioned, grown from English roots, the one grown in America being .9085, the one distilled in England being .9088. Nor were any specimens of pure oil found taking the sp. gr. above .917 which were in a perfectly soluble condition. One sample distilled by myself in 1875 and consequently eleven years old, had on account of its age a sp. gr. .924; one sample from New York .933, and one from the same district .940. However, those three samples were found to be readily soluble, the latter sample when submitted to rectification being found to contain 9 per cent. of insoluble resin. Of five samples imported from Europe none were found pure; two from Germany were found to contain dementholized Mentha arvensis; one from London, which bore a fraudulent and forged label (as Michigan Oil of Peppermint, Manufactured at Evart, Michigan county, U. S.) have a sp. gr. .899. This oil when submitted to fractional distillation was found to contain *fifty per cent. turpentine and no Michigan peppermint whatever.* The sample imported from London as German Oil of Peppermint, consisted chiefly of pennyroyal and Mentha Arvensis. Allowing a slightly wider range of difference than was really intended, it is evident that whether from English or American plants pure oil of peppermint is never below .908 sp. gr., nor when fresh and soluble above .917 sp. gr., so that the differences formerly allowable, that is, from .840 to .950 or .110 are made ten times as small or .011.

As to the boiling point. This is stated in the Dispensatories at 365 degrees F. and 374 F. By placing the oil of peppermint in a distilling flask, the body of which was immersed in a mercury bath, and attached to a Morse condenser, the following times and temperatures were noticed, the distillate being divided into eight fractions; applying the heat slowly, the slightest possible ebullition was noticed at 363 degrees F., but so slight as to be almost imperceptible. Ten minutes later the temperature had risen to 401.5 degrees F. at which time but two drams of fluid were collected, one half of which was found to be water. It will hence be observed that the true boiling point *of the oil* could hardly be placed below 400 degrees F. Ten minutes later the temperature had risen to 406.9 F., with distillation progressing at the rate of but six drops per minute, and which was found upon reducing the temperature to 406 degrees the speed of distillation was reduced to one drop in forty-two seconds, so that the first fraction could not be recovered easily, except at a temperature higher than this. Counting from the time when the oil commenced to drop into the receiver the distillation of the first fraction of one ounce occupied fifty minutes, being concluded at a temperature of 412.8 degrees F. It would seem then that the true boiling point should not be placed below 400 degrees F.

I would here call the attention of the association to the need of a more definite and complete formula for recording experiments in fractional distillation, in which not only the form of apparatus and method of applying the heat should be noticed and the temperatures of each fraction, but also the speed at which it is effected in its various stages. This matter would form a very interesting subject for discussion.

I will now call attention to one phenomenal characteristic observed in fractional distillation, and which I briefly alluded to one year ago, that is the *changes of direction* from the *ascending* to the *descending* scale in the specific gravity of the different fractions. It had formerly been supposed that the specific gravities constantly increased after the first until the last fraction was obtained. The law discovered is that when the distillate is divided into a number of fractions the specific gravity continues to rise only until about half the oil is recovered; it then strangely *commences to descend* until 80 or 90 per cent. is obtained, and a point is reached when the specific gravity is about as low as that of the third fraction. The direction now again changes to a rising scale, increasing with great rapidity. To illustrate this I give you the specific gravities obtained in the distillation of three hundred pounds of oil of peppermint by the diffusion of steam. The conditions will be referred to in some future paper.

The specific gravities were as follows: The first fraction 894.25; the second 906.5; the third 910; the fourth 912.75; the fifth 913.75; the sixth 914; the seventh 914.25; the eighth 912.75; the ninth 911.75; the tenth 911; the eleventh 910.75; the twelfth 910.65; the thirteenth 910.50; the fourteenth 912.65. There is now recovered fourteen full fractions of twenty pounds each. There now remains in the still one full fraction of twenty pounds not yet recovered. Subdividing this fraction the following specific gravities are found. The first five pounds is .925; the next two pounds .955, and the distillation being continued as far as possible, the last portion obtained is four ounces sp. gr. .970. There now remains in the still twelve pounds and fourteen ounces of resin, which if mixed with seven pounds four ounces last obtained, would raise the sp. gr. of the last full fraction to about .980.

In calling the attention of Prof. Flückiger of Strassburg, to the subject, he attributes it to the spliting up of the component parts. This, however seems hardly possible when the aroma and chemical reactions of the fractions are investigated.

There are other tests and characteristics of interest which I would gladly notice if time permitted, but which will better form the subject of some future article.

ELECTRIC CURRENT ACTION ON ANHYDROUS HYDROFLUORIC ACID.*

BY M. H. MOISSAU, PARIS, FRANCE.

On submitting to electrolysis by means of a current of a pile of 50 Bunsen elements in a U shaped tube in platinum, anhydrous fluoric acid prepared with all the precautions of Fremy's process, there results in operating at—50°C: At the negative pole, hydrogen easily recognizable; at the positive pole a continuous current of a gas presenting the fol-

*Comptes Rendus.

lowing properties: In presence of mercury it is completely absorbed, producing a clear yellow mercury protofluoride. It decomposes water, producing ozone. Phosphorus burns rapidly in it, producing phosphorus fluorides. Sulphur heats and fuses rapidly. It does not affect carbon. Its action on potassium chloride results in the production of cold and the disengagement of chlorine. Crystallized silicon washed with nitric acid and hydrofluoric acid, takes fire by contact with this gas and burns fiercely, producing silicon fluoride. The iridised platinum positive electrode is strongly reddened, while the negative platinum electrode remains unaffected. No decided conclusions can as yet be drawn from this action of the current on hydrofluoric acid, but further experiments will be made.

JAMBUL* SEEDS.

BY W. LASCELLES SCOTT F.R.M.S. U.S. C. A.†

Jambul seeds and bark are reputed in British India to have great medical value. The Indian fakirs claim good results from the use of all parts of the tree.‡ The leaves bruised and pressed yield a juice much esteemed in dysentery, by itself or more often in combination with other ingredients. A favorite formula is the following:—Juices of jambul leaves and mango, also myrabolams, of each one dram; mix well, and administer in goat's milk sweetened with honey. The juice expressed from the fresh bark and diluted with goat's milk is recommended in cases of juvenile diarrhœa, etc.

The bark is very astringent, and contains a special variety of tannic acid. It forms the basis of various draughts, gargles, etc., and of lotions for ringworm and other skin affections. The fruit, unless improved by cultivation, is about the size and shape of an olive, of a purple colour, and very astringent; within it is a thin, white papery shell, which encloses a large green kernel, also very astringent. The bark is grey and fissured externally; internally it is red and fibrous; its minute structure is remarkable in having several rows of very large fitted, oblong-oval cells, which can be easily seen with the naked eye. The odour is like that of oak-bark, and the taste very astringent No analysis of the fruit or bark has been made It is a large tree** found all over India. The subacid fruit is pleasant to the taste; the juice is preserved and used as a carminative. The bark is astringent, and employed both in dyeing and tanning. The wood is used for building purposes. Dr. Clement†† Daruty has found that it has diuretic properties. The seeds are oblong-ovate in shape, somewhat uniform, and rather resembles miniature kidney potatoes exteriorly, but when cut open are of a rather bright green tint, due apparently to chlorophyll only, and not to peculiar coloring matter. The spectroscope shows the well-known "chlorophyll-bands" in a very marked manner. The seeds measure, upon an average, about .6 of an inch in length by .4 inch across, and the mean weight=13.2 grains each, which means that 530 of these seeds weigh 1 pound avoir. The ligh est weighed 9.7 grains, and the heaviest, 15.4 grains. The moisture (and matter volatile at 200°F) in the seed amounted to 13.6, and the ash, on ignition, to 4.32 per cent., while of oil or fatty matter, 31.4 parts in 100 was yielded. Indications of a yellow-green resin, and of some peculiar crystalline principle were also afforded. Jambul has been credited (Western Druggist, March, 1886) with the power of diminishing the renal secretion, and of arresting the formation of sugar in diabetes, and a rough experiment was made with the view of ascertaining whether the seeds exerted any influence upon the conversion of feculaceous matter into sugar. Some pure dry rice-starch was weighed out in portions of 50 grains each, moistened to a thick cream, amidinized by being stirred into boiling water, and the ebullition continued for 15 minutes afterward. By means of one experiment, the quantity of a freshly made, but rather weak malt extract capable of converting about half the starch, or 25 grains, into sugar at a temperature of 125°F continued for 50 minutes precisely, was ascertained; that quantity, made up to 100 grain measures, was employed in each of the experiments mentioned below, the sugar formed being subsequently determined in the usual manner. 1, without jambul; 2, with 15 grains jambul; 3, with 25 grains jambul.

Amount of starch converted in sugar: 22.4 grains; 9.8 grains; 6.3 grains; that is to say that while a certain quantity of diastatic matter converted 44.8 per cent. of the starch employed into sugar in 50 minutes, normally with the same materials and in the same time 19.6 per cent. was so converted when 15 grains of jambul powder was also present, and only 12.6 per cent. when 25 grains of the seeds were present. These results seem to confirm those of H. Banantokla (Medical Record, Jan., 1883) who first pointed out the anti-diabetic action of Jambul.

*Eugenia jambolana. Syn.—Sizygium jambolanum. Vern.—*Bengali* Jám, *Hindi*, Jamun, *Tamil*, Naval; *Telugu*, Naseau; *Burmese*, Thabyalpiu, *Creole* Jamlong.

†Abstracted from the British and Colonial Druggist.

‡Dutt's Hindu Materia Medica.

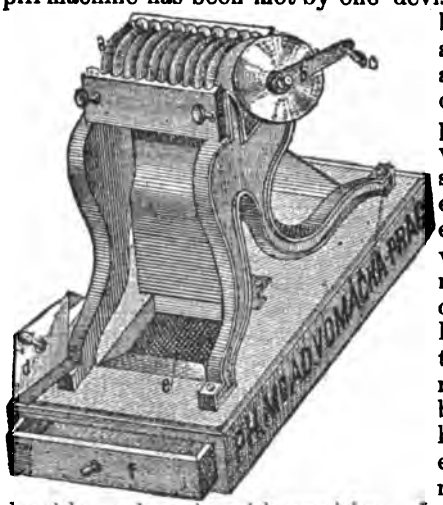
§Dymock's Materia Medica of Western India.

**Amsterdam Exhibition Report, 1883.

††Medicinal Plants of Mauritius.

PILL MACHINE.

The general pharmaceutical desire for a large pill machine has been met by one devised recently by A. Vomacka. This is a machine of decidedly practical value, designed for extemporaneous use as well as the manufacture of pills in large quantities. It is made of the best English hand-worked steel, is massive and durable, and works with precision. It is furnished with forms of different dimensions composed of steel, or hard stained wood impervious to moisture. By changing the form, pills of any required size can be made.



PERCOLATION.

Does the method of percolation yield satisfactory results? In answering this query in a paper to the Massachusetts Pharmaceutical Association, Mr. J. W. Colcord gave it as his opinion that the majority of observant pharmacists would answer this question in the negative, and the numerous contributions to pharmaceutical literature on this point were evidence in the same direction. It was his belief that a large proportion of the fluid extracts and tinctures prepared by the U. S. P. process does not represent the proper strength, i. e., the drug has not been properly exhausted. The directions to macerate, when the liquid begins to drop, is wrong in theory and misleading in practice. He obtained better results by continuing percolation until ⅛ to ¼ the designed amount results, then alternately percolating and macerating. (None of the patent percolates possess sufficient advantages to warrant their use; in most instances the menstruum is either forced down the sides of the percolator without properly exhausting the center, or, forced through too quickly to accomplish good results; the common percolators, especially the conical ones, also have the first defect.) As solution and exhaustion in his opinion are identical he endeavored to ascertain which portion of the drug was first exhausted, and if it proceeded equally through all portions. For this purpose on a diaphragm, carefully placed in a two-gallon conical glass percolator, two inches of granulated sugar, carefully leveled, were placed; across this was laid a strip of blue paper, the ends just touching the percolator sides. Upon the outside were pasted strips of paper marking the position of the blue paper. Sugar, with blue strips alternating every two inches, was packed to the top; seven divisions in all carefully marked exteriorly. The sugar was saturated with cold water and percolation allowed to proceed. With the exception of the top one and this but slightly, no paper settled at all, but as the sugar dissolved and passed into the receiver as syrup, each in its turn floated when no more was left undissolved to hold them in position. It is evident that solution proceeded entirely at points of contact with the water which, dissolving at the outset all the sugar it could, took up no more until its exit; leaving the mass undisturbed. In his opinion similar results occur in the displacement of a drug.

He next endeavored to secure a process to prevent the menstruum following the sides in advance of the center and to combine maceration and percolation continuously. The process is cheap and effective. Taking an ordinary glass percolator, to it are fitted three diaphragms; the lowest an ordinary one simply covering the orifice, the next fitted with a rim an inch in height, fitted with rings with which it can be lifted out and surrounded by a rubber band which allows it to fit into the percolator tightly about ⅛ the height; a similar one is fitted about ⅔ the height. The diaphragms are provided with standards to prevent the upper diaphragm being lifted by the swelling drug; a diaphragm on top secured by screws to the rim of the percolator holding all in position. The drug being slightly moistened, sufficient is packed in to reach thebot tom of the second diaphragm; this being placed tightly in position, packing is continued until the second is reached and treated similarly. Over the orifice of the percolator is a gum nipple with a slit just large enough to permit continuous dropping; a pinch-cock is used to stop percolation when maceration is desired. In his opinion, fluid extracts and concentrated less alcoholic preparations of a smaller dose and uniform strength will soon take the place of most tinctures, and these pharmacists must make for themselves.

He selected for experiment, therefore, gentian fluid extract. Instead of the U. S. P. process he chose repercolation since: First it must soon be the official one and Second: It is especially adapted to the percolator just described which saves time, labor and alcohol. The drug being packed and secured the top was covered with dilute alcohol, adding more from time to time as absorption took place. The alcohol, as usual, crept down the sides till it reached the first diaphragm's top rim; its progress was stopped until the first portion of the drug was well saturated. The menstruum did not appear in the second section for about four hours, when a dime-sized saturated patch, two inches below the bottom of the diaphragm, was noticed, which gradually extended upward and down till all was saturated; the same thing occured in the lower section. At the end of 12 hours it began dropping slowly, in 24 hours ¼ the desired amount was collected, reserved and percolation continued. After 48 hours the upper section with contents was removed and 8 oz. of percolate in receiver returned to the percolator. The drug in the upper section was, after washing with a little dilute alcohol, run through a common Enterprise press and thoroughly expressed. As soon as the returned percolate disappeared the expressed liquid was turned into the percolator. As soon as 8 oz. were collected they were added to the first reserved 8 oz. After the third day the second section was treated in like manner. After the fourth day the lower section was removed and treated in like manner except that dilute alcohol was not used for washing. On filtering the expressed liquid and adding to reserved portion the resulting product was 33 ounces or one oz. too much. From each of the three portions after expressing two two ounce portions were weighed out. One portion of each was infused for 12 hours with 10 oz. hot water, filtered and evaporated in a water bath to solid extract consistency. The extract was macerated in 10 oz. dilute for seven days with this result: Infusion: Upper section 0.4, middle section 0.6, lower section 1.0. Maceration: Upper section 0.55, middle section 0.65, lower section 2.0, total 5.20, equal to 15.0, for whole amount percolated. Neither infusion nor tincture from middle or upper portion reacted in presence of ferric chloride. The residue except to a slight degree did not taste of the gentian bitter principle, but was rather sweetish; it probably consisted of sugar and inert matter. The large amount in the lower section resulted from the change in procedure already described. It is evident the drug was practically exhausted, not more than 5 or 6 grains of extract as such remaining. On comparing an ounce obtained by the method just described, an ounce obtained by the U. S. P. method a year old, and an ounce of Squibbs' preparation, age unknown, it was found, on these being severally evaporated, over a water

bath in a weighed evaporating dish, to the consistency of a solid extract, that the extract U. S. P. weighed 15, Squibbs' 13, Colcord 12.5. A small portion of each was dissolved in hot water and set aside; the U. S. P. showed heavy precipitate evidently due to inert matter resulting from evaporating the percolate since none was present in the others. The Colcord fluid extract allowing for modifications in the treatment of the lower section in his opinion tests equal to Squibb's. The solid extract by the U. S. P. method is sweeter than the other. A little over four days was required to make the extracts and the cost was about 45 cents per pound.

NOTES ON THE PHARMACY OF HYDRONAPTHOL.*

BY THOS. D. MCELHENIE, BROOKLYN, N. Y.

Hydronapthol was introduced about a year ago by Messrs. Rigney & Wolff, of New York. The principal literature on the subject is a series of articles by George R. Fowler, M. D. of Brooklyn, on its uses in surgery, the first of which appeared in the New York Medical Journal for Oct. 3, 1885. About this time, at Dr. Fowler's request, I prepared two cases of sponges with the new antiseptic for use in St. Mary's Hospital, and have taken some interest in it since. Dr. Fowler reviews the chemistry of Hydronapthol, showing its relation to the phenol series, and then describes very exhaustive investigations into its antiseptic properties. A few notes on its chemical nature may not be out of place here. There are two hydroxyl substitution compounds of Napthalin, known as Alpha- and Beta-Napthol, made by heating napthalin with sulphuric acid. Alpha-Napthol is formed between 60° and 90° C., and Beta-Napthol between 180° and 190° C. The Alpha or Beta-Napthol monosulphonic acid thus formed is decomposed by sodium hydrate into sodium naptholate, sodium sulphite and sodium hydrate. The sodium naptholate, when decomposed with hydrochloric or sulphuric acid, gives naphthol, which is then purified by sublimation. The term "Hydronapthol," although slightly vague in a scientific sense, indicates the origin and chemical kinship, and is a convenient term for commercial use. It is found to be about twelve times as strong as phenol in antiseptic power, and possesses several other advantages over that substance. It is non-irritant, non-corrosive, and non-poisonous. The latter point was definitely ascertained by Dr. L. Wolff, of Philadelphia, by physiological experiments conducted at Jefferson Medical College. It is soluble in one thousand parts of water at 60° F. and in one hundred parts of boiling water, from which the excess separates on cooling in beautiful, brown, feathery crystals. The saturated solution, 1-1000, has a slight aromatic odor, but is practically tasteless. In somewhat stronger warm solutions it has a bitterish, pungent taste. It sublimes at 90° C. It occurs in silvery white, pulverulent laminæ, and dissolves in four parts alcohol, three parts ether, chloroform, benzole, and ten parts fixed oils. Hydronapthol is not germicidal at least in the proportion of 0.5 per cent., five times the strength of a saturated aqueous solution, but is reliably antiseptic in the proportion of 0.1 to 0.05 per cent. preserving solutions of beef-glue, gelatin, starch, gum, fresh urine, etc., etc. Thinking that so valuable an antiseptic must prove useful in various ways in pharmacy, I have been testing it during the summer, and note the following behavior to reagents. In all cases the saturated aqueous solution was employed. This solution exposed to sunlight soon begins to darken, passing through various shades of opalescence, becoming brown after a month or so, and depositing a film on the entire inner surface of the bottle.

With Tinct. Ferri Chlor. no change resulted.
With Acid Sulphuric conc. no change resulted.
With Acid Hydrochloric conc. no change resulted.
With Acid Nitric conc., an orange-yellow color, changing in a moment to a dense, turbid, olive green by transmitted light, and dull purple by reflected light.
With Acid Nitric dilut., no change.
With Acid Acetic, no change.
With Phosph. syrupy., no change.
With Nitro-Hydrochlor, same as conc. nitric acid.
With Nitro-Hydrochlor dil., no change.
Tinct. Iodinè, discharged color of first two or three drops, but became opaque on further addition.
Acid Tannic, no change.
Acid Salicylic, no change.
Liq. Potassa, no change.
Aq. Ammonia, slight purplish tinge, changing to straw color after some hours

Among the first uses to occur to the pharmacist will be the preservation of alkaloidal solutions. I have prepared some for trial, but they are too recent to prove anything at this meeting, being only made within three weeks, but I think that a solution of Hydronapthol, 5 to 7 grains to a pint of distilled water, will furnish a perfect vehicle for delicate solutions. I have noted, however, one exception; sulphate of strychnia is decomposed and probably reduced to the alkaloid. The use of hydronapthol will enable pharmacists to prepare fresh beef juice by sprinkling on the finely-chopped beef a little of the powder, say ten grains to the pound, warm over a fire to about 130° and press quickly. The product would contain all the albumen and be infinitely better than the commercial meat extract. The physician would best appreciate this after restoring a patient from extreme debility.

*Read at the meeting of the A. P. A., at Providence, Sept. 8, 1886.

ABSTRACT OF SOME PAPERS READ AT THE A. P. A. MEETING.

The presence of nicotine in Cannabis Indica is denied by Geo. W. Kennedy, who failed to find any trace of that alkaloid by two methods whose efficacy was confirmed contemporaneously in the extraction of nicotine from tobacco. The investigation, however, tends to confirm the report of other experimenters regarding the presence of an alkaloid of some kind in Cannabis Indica.

THE USE OF CONCENTRATED PREPARATIONS in extemporaneous pharmacy in reply to a query, was considered by J. L. Lemberger (Lebanon, Pa.,) as to its feasibility or practical value. He alluded to the fact that pharmacists having country physicians' trade are frequently called on for an infusion of gentian, or perhaps digitalis or quassia, and it is

wanted in less time than the officinal process will allow it to be made, and with the physician's consent to have, on numerous occasions, accommodated such want by making from the fluid extract in the required proportion.

In answer to the query it was deemed quite feasible to prepare concentrated liquid preparations of some drugs which may be diluted so as to bring them to the officinal strength. They might have to be specifically designated, say concentrated liquid of gentian for infusion, etc., and care would have to be taken in the proper adjustment of the menstrua.

THE QUALITY OF THE BELLADONNA LEAVES of the market was reported upon by Dr. A. B. Lyons, (Detroit, Mich.). From samples obtained in New York the average percentage of alkaloid was about 0.40 per cent. From samples obtained in Detroit the variation ranged from 0.29 to 0.62 per cent., and from leaves of prime quality offered in New York market the average percentage of alkaloid found was 0.474. Of twelve specimens of belladonna root examined the variation was not so great, the average percentage of alkaloid being 0.618. The following is a summary of conclusions:

1. That belladonna is a drug subject to great variations in strength, so that of two samples rated as of equal commercial value, one may be of double the strength of the other.

2. That the proportion of alkaloid contained in good belladonna is higher than has been generally stated.

3. That belladonna leaves that have been kept in pressed packages for several years do not show evidence of loss of alkaloid. It is of interest, in this connection, to note that the best sample of pressed leaves examined was a very unpromising one, put up by the Shakers, and evidently quite old.

4. That while there is undoubtedly much belladonna of very inferior quality in the market, that which is offered as prime is generally fairly good.

5. That belladonna root, as met with in our market, is richer in alkaloid than belladonna leaf, and that the extract prepared from the root should also contain a larger proportion of alkaloid than that made from the leaf with the same menstruum.

Finally, the importance of fixing for such active drugs as belladonna, authoritative standards of strength, and of requiring that the official preparations of such drugs be brought, by official requirement, to a definite alkaloidal standard.

BUTTER AND ITS SUBSTITUTES was the title of a paper presented by Emil Scheffer (Louisville, Ky.,) containing a scheme for the quantitative examination of spurious butter based upon the difference in solubility of stearin and of palmatin and olein. The various fats used in making butter substitutes contain large quantities of stearin, present in butter only in very small proportion. A mixture of 40 parts of rectified fusel oil and 60 parts of stronger ether, 3 C. c. dissolved 1 gram pure butter at 82° F. One gram of beef suet required 50 C. c.; one gram of beef-lard 16.04 C. c.; 1 gram (C. c.) of cottonseed oil 1.75 C. c.; and one gram of stearin required 550 C. c. for solution at 82° F. Two specimens of oleomargarin required 11 C. c. and 8.6 C. c. respectively; two of butterine nearly the same proportions; neutral lard 13.5 C. c.; and two samples of "oleo-oil," obtained from a Chicago manufacturer, required 3.0 and 2.3 C. c. respectively. [This would indicate that oleo is chiefly cottonseed oil, and since it is the principal ingredient in butterine, the solubility of the "stuff" could be easily regulated so as to compare with pure butter, and the value of this test to that extent be impaired.—ED. W. D.]

SEVERAL FORMULAS for "paste for labels" were recommended by Leo Eliel (South Bend, Ind.), as follows:

1. Gum Tragacanth.....oz. 1
   Gum Arabic.....oz. 4
   Dissolve in water.....pint 1
   Strain and add thymol.....grains 14
   Suspended in glycerin.....oz. 4
   Finally add water.....to make pints 2

This makes a thin paste suitable for labeling bottles, wooden or tin boxes, etc. It makes a good excipient for pill-masses, and does nicely for emulsions. The very small percentage of thymol present is of no consequence. This paste will keep sweet indefinitely, the thymol preventing fermentation. It will separate on standing, but a single agitation will mix it sufficiently for use.

2. Rye Flour.....oz. 4
   Powd. Acacia.....oz. ½

Rub to a smooth paste with 8 ounces of cold water, strain through a cheese cloth, and pour into one pint of boiling water. Continue the heat until thickened to suit. When nearly cold add:

   Glycerin.....oz. 1
   Oil Cloves.....drops 20

This is suitable for tin or wooden boxes or bottles, and keeps sweet for a long time.

3. Rye Flour.....oz. 4
   Water.....pint 1
   Nitric Acid.....drachm 1
   Carbolic Acid.....minims 10
   Oil Cloves.....minims 10
   Glycerin.....oz. 1

Mix the flour with the water, strain through a cheese cloth, and add the nitric acid. Apply heat until thickened to suit, and add the other ingredients upon cooling. This is suitable for bottles, tin or wooden boxes, and will not spoil.

4. Dextrin.....parts 8
   Acetic Acid.....“ 2
   Alcohol.....“ 2
   Water.....“ 10

Mix the dextrin, water, and acetic acid to a smooth paste, then add the alcohol. This makes a thin paste, and is well suited for labeling bottles and wooden boxes, but is not suitable for tin boxes.

A NEW ALKALOID termed francisceine, has been obtained from Manaca root according to the Lancet, the product of Franciscea uniflora and certain other species. It is a very powerful purgative and diuretic, and is also possessed of diaphoretic and emmenagogue properties.

METHODS OF CUTTING GLASS.—A simple method of cutting glass is described in the Scientific American, as follows: The bottle which it is desired to cut is notched by means of a file. "Then, by applying a hot iron or glass rod, first on one side then on the other of the notch, a smooth crack half an inch long will sometimes form. But, as this does not always take place, and as in cutting glass only one of the pieces is wanted, a crack may be started well away from the desired place. Assuming such a crack to be formed, it may be led in any direction by slowly moving in advance of it, and in contact with the glass, the end of a pipe stem, or an iron or glass rod, heated to a full red heat. The speed with which the rod is to be moved depends on the crack. It should be kept about a quarter of an inch in advance thereof, and should be moved continually away from the end, as the crack extends. In this way a flask can be cut into a spiral, or heavy plate glass divided with fair accuracy."

[In cutting bottoms off bottles which are to be used for percolators, etc., we have for many years employed the following method with uniformly good success: A cotton or woolen thread of medium thickness is saturated with alcohol and wrapped loosely around the bottle at the place the crack is desired, a scratch having first been made with a three-cornered file. The string is then set fire to, the bottle being held horizontally while the flame is carried along the string. When the fire is extinguished and while that portion of the glass covered by the string is still hot, the bottle is quickly immersed in cold water, with the result of fracturing the bottle in an almost straight line. The detached bottom may serve as an almost air-tight cover, or the edge may be ground smooth on a horizontal pane of glass with sand, camphor and turpentine, which will finish the edge perfectly.—ED. W. D.]

TO DISGUISE THE BITTER TASTE OF QUININE.—Ferd. Lascar, in a paper read before the Louisiana Pharm. Assoc., recommends triturating the quinine sulphate with an equal weight of milk-sugar and then with twice its weight of crystallized sodium phosphate. The addition of very little saccharin will mask the bitterness yet more completely. The quinine in this mixture is transformed into the phosphate, which, owing to its comparative insolubility, does not taste bitter. It is, however, easily decomposed in the stomach.

DANGERS FROM PETROLEUM EXPLOSIONS ON SHIPBOARD.—The recent conflagration of petroleum floating on the surface of the Chicago river renders the following comments of the Liverpool (Eng.) Journal of Commerce, on a similar recurrence on the Thames, of interest:

"Water will not extinguish flames springing from petroleum. This fact has been fully established, on a few occasions, by lighted oil floating on the surface and flowing with the tide. Ships, wharves, river craft, and goods have been destroyed through contact with petroleum fire. Wooden hulks in which gunpowder is stored, or barges laden with explosives for shipment, would stand a fair chance of being destroyed if a fire happened on board a petroleum-laden inward bound ship, or petroleum flames issued into the river from sewers or storage warehouse. To extinguish fire on a river it must be attacked by persons in iron-built boats. Beating the water with poles, sticks, or planks has proved an almost certain method of arresting its progress, but if metal craft are not immediately available, a cordon of any other kind of vessel may suffice to render the flames powerless."

KAURI GUM has been found to perform many useful services in medicine. When the gum is burned it gives out a very pleasant odor which destroys the odor of putrefying organic substances most effectively. Dissolved in spirit, it burns in the lamp with good effect and reduced to a fine powder and shaken with water, it communicates to the water new properties, so that, sprayed in a room, it renders the air ozonic. It mixes well with ointments, forms a good combination with soap, and, combined with iodine, is a useful deodorizer and disinfectant. The gum is obtained from a pine, the kauri tree, Dammara australis.—The Asclepiad.

ETHER STEEPED PREPARED SPONGE.—Prepared sponge swells when steeped in water but not if steeped in ether. Laminaria has the same properties as has been shown by Porak (La France Medicale). Laminaria which was steeped in ether swells just as much and as rapidly when exposed to the action of water, but ether steeped prepared sponge does not swell as rapidly as that not steeped. This is rather an advantage in operative medicine. Dr. Porak proposes to take advantage of this property to render prepared sponges antiseptic by steeping them in an ethereal solution of iodoform, whence they are taken only when intended for immediate use.

A NON-INFLAMMABLE CELLULOID SUBSTITUTE (according to the D. Am. Apoth. Ztg.) is as follows: A solution is made of 200 grams of casein in 50 grams of ammonia water, to which is added 400 grams of water, 240 grams of lime, 150 grams aluminium acetate, 50 grams of alum, 1200 grams calcium sulphate, and lastly 100 grams of oil. The ingredients are thoroughly incorporated, the mass rolled into slabs of convenient thickness and strength, then dried and pressed in hot metallic forms, or the dried and powdered substance is given the required form by pressure, which is then dipped into a 10 per cent. solution of phosphoric acid, dried, polished and shellacked.

BILLROTH'S ADHESIVE IODOFORM GAUZE.

Glycerin	grams	500
Colophony	"	1000
Alcohol	kilograms	10
Iodoform, powd	"	4

About 200 meters of unbleached muslin is impregnated with this mixture. The quantity of the iodoform sometimes varies according to the purpose for which the gauze is to be used.

PAPERS READ AT THE BRITISH PHARMACEUTICAL CONFERENCE.

ASSAY OF ELATERIUM.

Messrs. H. W. Jones and F. Ransom recommend the following method of estimating elaterin in the drug: A gram of elaterium should be macerated in chloroform in a covered dish for a few hours, and should then be transferred to a small glass syringe, barrel-sized percolator and washed with chloroform. About ten C. c. are allowed to pass through the marc after the menstruum is passing colorlessly. The chloroform is then evaporated from the percolate by a gentle heat. The residue is treated with a small quantity of pure absolute ether and transferred to a funnel plugged with cotton wool. Wash with ether until 10 c. c. have passed through colorless, and reserve the ethereal washings. Re-dissolve the elaterin by chloroform whilst still in the funnel. Evaporate the chloroformic solution once more to dryness. Treat the residue so obtained with ether as before. Allow the united ethereal washings to evaporate until the bulk is reduced to 3 c. c. Transfer to a 10 c. c. measure and allow the separated elaterin to deposit carefully decant the colored supernatant ethereal layer, add 4 c. c. of pure ether to the residue, and again decant after deposition has occurred. Dissolve the elaterin in the cylinder by chloroform, and wash out the larger amount previously collected in the funnel with the same solvent. Unite the chloroformic solutions, evaporate at a gentle heat in a tared dish, dry by the water-bath and weigh. In a trial experiment the elaterin recovered from the ethereal washings was 1.9 per cent. A small amount was retained by the final small bulk of ether, equivalent to about 7 milligrammes, indicating 0.7 per cent. more elaterin was present.

The Pharmacopœia of 1885 stated that elaterium should not contain less than 20 per cent. of elaterin which was the standard. The last amount represented a fairly good article, whilst the other indicated too low a percentage. A sample prepared in the season of 1885, assayed by the method described, yielded 29 per cent.

Mr. Alcock asked if the use of chloroform and ether could not be reversed with advantage.

Mr. Lascelles Scott had found carbon bisulphide of great value in removing impurities.

Mr. Jones said that the reversal of the use of chloroform and ether resulted in a waste of ether. Carbon bisulphide did not answer.

HYMENODICTYONINE DERIVATIVES.

Mr. W. A. H. Naylor, after repeated experimentation, had failed to secure either an iodo or bromo-derivative in the crystaline form. Hymenodictyonine was constitutionally related to pyridine.

Mr. Alcock said that as hymenodictyonine was an antipyretic it was desirable to know the best solvent for the alkaloid.

Mr. Naylor said that alcohol was the best solvent.

DAPHNIDIUM CUBEBA.

Messrs. Brathwaite and E. H. Farr state that daphnidium cubeba has been imported of late for piper cubeba. The fruits somewhat resemble the genuine drug, but are readily distinguishable. They are almost spherical in form, superior and attached to a short stalk. The microscopic structure is widely different from that of Piper cubeba. The testa is composed of a layer of very hard elongated cells, placed with their extremities to the axis, and having an interrupted layer of sclerenchyma on the exterior, which is not found in Piper cubeba.

On being macerated with petroleum ether the fruits yielded to that solvent 25 per cent. of their weight, consisting of a semi-solid unctuous mass of a deep red-brown color, melting at 30° C. to a sherry liquid.

Both fixed and volatile oil being present they were isolated; the volatile oil by distillation with steam, when nearly 1 per cent. was obtained. It was pure yellow in color, and had an agreeable odor between that of lemon and verbena. It melts at 17° C, being solid below that temperature. The color reactions, compared with those of the genuine oil of cubebs, are as follows:—

Reagent employed.	Oil of Daphnidium Cubeba.	Oil of Piper Cubeba.
Solution br. in $CHCl_3$ 1 in 20.....	Yellow.	Violet blue.
The same afterward diluted with absolute alcohol	Solution canary yellow.	Solution violet blue.
HCl	Yellow.	At first colorless, afterward violet.
HNO_3	Yellow to dull brown.	Yel'w to bright violet.
H_2SO_4+$CHCl_3$	Rich amber brown.	Violet brown.
The same+water	Dull red brown	Bright violet.

A further quantity of fixed oil was obtained by percolation of the drug with petroleum ether. From this a quantity of white crystals were separated by treatment with cold alcohol, in which they are almost insoluble. The form of the crystals with the melting point and saturating power showed them to be lauric acid. The complete results of the process of examination were as follows:

Petroleum ether extract 24.2	Comprising volatile oil 1.25 per cent. Fixed oil, lauric capric and oleic acids, partly in combination.
Ether extract 11.5	Comprising three resins separable by solvents. Two alkaloidal bodies, one precipitated by lead acetate. Traces of glucosidal resin.
Alcohol extract 8.5	Comprising faint traces of alkaloid A glucosidal resin. Two neutral resins.
Aqueous Extract	5.8 per cent,, including 1.6 per cent mucilage.
Moisture	6.59 per cent.
Ash.	5.998.

ULEXINE.

A paper by Mr. A. W. Gerard showed that in the previous methods of extracting this alkaloid much was left in the oily matter present in the alcoholic extract, since it was not easily removed by water. He had determined that hydrochloric acid 1 in 1,000 shaken with the oily matter easily removed the whole base. The resulting solution, on being concentrated and treated with soda and chloroform, yielded, on the chloroform being evaporated, ulexine in crystals. The bark and young tops contain a small quantity of ulexine. Ferric chloride gave a deep red color with ulexine.

Messrs. Naylor, Alcock and McEwan expressed their concurrence in the views of Mr. Gerard.

COMMERCIAL IRON AND QUININE CITRATE.

Mr. F. H. Alcock has had the following results from examination of the commercial specimens of this remedy:

Source.—The samples were procured from well-known manufacturers and were considered to be typical representatives of the preparation as ordered in the last B. P.

Appearance.—The samples were very much alike; the scales were not particularly fine; some specimens darkened in sunlight more rapidly than others.

Solubility ascertained by dissolving 1 drachm of the substance in four of distilled water; three gave clear solutions and three were not so satisfactory.

Ferric Oxide.—Under this head is included the ash obtained by ignition in the ordinary way of a definite quantity and weighing the amount left. It does not vary very greatly, the lowest being the one marked F. On moistening the residues and testing with litmus paper, F. was found to be strongly alkaline, and the others but feebly so. Ferric hydrate obtained by the use of sodium, in place of ammonium hydrate, might account for this, but the alkalinity of F. was probably due to potash rather than soda.

Alkaloidal Constituent estimated by the B. P. process with chloroform as the solvent, and drying the solid residue at 212° F. after spontaneous evaporation in a current of air. The amount of alkaloid present varies, but not to a very great extent, compared with previous results, but there still seems to be an imperfect understanding amongst manufacturers as to B. P. requirements. The nature of the alkaloid should be ascertained by official tests, and further information as to the mode of drying the alkaloidal residue is desirable. The figures obtained show an average of 14.2 per cent. of alkaloid, so 14 per cent. is suggested as a more convenient standard than 16 per cent. or 15 per cent.

Abnormal Constituent.—Under this name sulphates are included, estimations of the amount thereof in citrate of iron and quinine not having been met with by the author. In all the samples sulphates were found in variable quantities, a fact which does not indicate careful manipulation. One manufacturer is reported to have said "That the B. P. authorities have retained the same vain attempt to get rid of every trace of sulphate from the ferric hydrate," but the results show that if absolute freedom cannot be obtained it is possible to arrive very near to it. The sample marked C contains but a mere trace of sulphate, and as this was the best in every respect, an article as free as possible from the sulphuric radical is most likely to give the best results.

Sample	Solubility	Fe_2O_3	Alkaloid. At 212°F	Sulphate. (SO_3)
A	Clear	18.2	14.7	0.875
B	Turbid and flocculent	20.0	14.0	1.812
C	Very clear	19.8	14.3	0.141
D	Clear, but turbid on stand'g	21.1	13.0	2.386
E	Clear, but turbid on stand'g	19.0	14.6	2.467
F	Very turbid.	16,4	14.0	1,704

Mr. Umney said that these results indicated criminal negligence or worse, which was also the opinion of Messrs. Conroy and Lascelles-Scott.

CRYSTALIZED ACONITINE.

Mr. J. A. Williams, in a paper read before the British Pharmaceutical Conference, states that aconitine had chiefly been prepared in the amorphous form, but of late a demand had arisen for the crystalline aconitine. The root of Aconitum napellus was its chief source in England and on the Continent. The root should be reduced to coarse, not fine, powder and exhausted with spirit of at least 62 per cent. If methylated spirit were used it should be free from gummy and resinous matter. Four ounces of tartaric acid to each hundred weight of root should be dissolved in the spirit. Cold maceration for about four days should be followed by percolation. The percolate should then be returned to the root for a second maceration, then repercolating and repeating the whole process. By passing a sufficient quantity of spririt through the percolator at the end, the whole very concentrated tincture can be obtained, and the root completely exhausted. The spirit should be distilled off at the lowest temperature possible, but distillation should be stopped before all the spirit has come over. Then add a little hot water and place the whole in a water bath till the spirit is completely driven off. The thin aqueous extract is next filtered through the coarse filtering paper previously damped, the resinous matter then separating and a clear dark-brown acid liquor results. All oily matter is removed by ether. A slight excess of a concentrates soda carbonate solution is added. The crude alkaloid precipitates and on warming coagulates in a resinous-looking mass, much as quinine does under similar circumstances. This mass was then washed with moderately hot water till the water came off clear. The mass is then powdered and dried by exposure to the air and subsequently macerated in several portions of pure ether. These portions mixed and filtered were evaporated for the most part spontaneously. A considerable quantity of crystallized aconitine would be deposited. The crystals could be drained and more crystals result, which were always more or less contaminated with gummy extractive non-crystalline matter, removable by digesting the crystals in very cold pure ether.

Mandelin is of opinion that crystallized aconitine only should be used in medicine and that in making the alkaloid the base should first be converted into nitrate and from this the pure crystallized alkaloid should be obtained. Aconitine was of such a delicate nature that it was desirable to bring into contact with powerful reagents. Aconitine obtained from the nitrate, it was probable, differed from the true alkaloid. Stevenson had shown the aconitine obtained by the present process was a powerful lethal alkaloid.

Mr Groves, of Weymouth, had produced crystalline aconitine twenty years ago and his views were then opposed by Mr. Williams, who had just enunciated similar views. Aconitine was a delicate complex molecule, and changes in crystal forms were not unlikely. The great trouble was that aconitine of a non-poisonous variety existed in true aconitine Dr. Wright had given this non-poisonous alkaloid the name of picro-aconitine. It had been obtained by Dr. Broughton and Mr. Cleaver from Aconitine heterophyllum and paniculatum. The aconitine question needed investigation. The use of tartaric acid and soda carbonate did not seem to him to be desirable.

Mr. Long (London) was of opinion that percolation as described would tend to cause reabsorption of extractive matter. Distillation in vacuo was the best process.

Mr. E. M. Holmes said that a typical form of the plant should be cultivated, with which opinion Mr. Shenstone, of Colchester, agreed.

Mr. W. Wilmott (London) said that while uniformity was desirable no guide existed as to the dose.

Mr. Umney encountered great difficulty in obtaining the officinal root. Aconitum ferox roots were sold in immense quantities twenty years ago; then came the Japanese roots, and now they were largely supplied by Germans. Plants were now being cultivated in Cambridgeshire and elsewhere in England.

The President said that the commercial aconite root varied greatly. The minute dose constituted an element of danger.

Mr. A. W. Gerrard (London) had found tartaric acid necessary when methylated spirit was employed. He preferred hydrochloric and acetic acid to nitric.

Mr. Alcock had had difficulty in getting the officinal root. The German commercial napellus root was very rotten.

Mr. Moss believed that the nature of the alkaloid varied with the species used. He was in favor of using drugs from England when these could be obtained with the same facility as from the Continent.

Mr. Moss said that Aconitum Napellus yielded aconitine while Aconitum ferox yielded pseudo-aconitine. He was in favor of using tartaric acid in extraction of aconitine.

Mr. Burford (Leicester) asked if there was not a gummy matter which was alkaloidal.

Mr. Williams was of opinion that the gummy matter was alkaloidal, but changed somewhat by oxidation; it did not crystalize. Aconitine was a very delicate alkaloid readily changed by manipulation. There was no certainty about the roots obtained. Differences in results might be due to specific differences in the roots used. Even crystalline aconitine varied. The variety with solid cubical crystals was inert. The true aconitine was rhombic with points; acted upon by nitric acid it assumed a star form.

PHARMACOPŒIAL BELLADONNA LINIMENT, B. P.

Mr. F. Ransom claims that by reducing the twenty ounces root to twenty instead of forty powder, and pressing the marc after two pints of spirit had been employed, the final product was slightly stronger than that prepared strictly in accordance with the Pharmacopœia, and that a saving of fourteen fluid ounces of spirit had been effected. The general opinion was in favor of the process since the pharmacopœial process only extracted forty per cent. of the alkaloids, and hence was not economical.

NOTES FROM PAPERS READ.

Mr. Dott states that the loss of iodoform by evaporation at water bath temperature is 6.68.

Mr. Hooper claims that shaving quinine trees increases the yield of quinine.

Mr. Dott states that compound spirits of ether, prepared according to the B. P., is of variable composition and uncertain value.

Mr. Moss says that salol is a phenyl salicylate, and that Sahli's chemical phraseology is a little indefinite. Salol is decomposed only by alkaline substances and passes unaltered through the stomach.

Mr. J. C. Shenstone claims that in the preparation of this an artificial wine, free from tannic acid, should be used. The following was a desirable formula: Alcohol, 23 parts; glycerin, 10 parts; malic acid, 5 parts; water, 67 parts; ex. rad. ipecac B. P. proportion.

Mr. Martin has found that tinctures by the old process were still sent out and those by the new contained an excess of alkaloid due the standardized extract, losing moisture by keeping, and hence becoming more potent.

In the discussion of two papers on this subject by Messrs. Hodgkin and Scott it was generally admitted that there was no such thing in reality as "pure terebene." The term "pure terebene" was arbitralily used to designate a hydrocarbon which boiled between 550° and 600° F., was colorless, had a pleasant, fruity smell, and was optically inactive.

Mr. Kirby states that a false pareira was in the market. It was chocolate brown externally, yellow or brownish yellow internally; had a great number of woody zones instead of three or four; in the larger pieces there was an eccentric arrangement of zones; the root portion had a stem of small diameter with a variable number of straight, not twisted, rays; and, finally, the woody wedges were narrow and had vessels with a small diameter. These striking peculiarites will readily serve to identify the substitute. President Greenish and Mr Moss had observed a similar sophistication.

Prof. Hellhouse argues in favor of a more systematic study of botany. Dr. Trimen, Messrs. Alcock, Mortendale, Elbourne and Schacht took much the same ground, the first expressing his desire that the term pharmacology should be used instead of materia medica.

Mr. Jones claims that the volumetric method of obtaining emetine is unsatisfactory, and favors Flückiger's method.

PIPERONAL.

Piperonal, an aldehyde corresponding to piperonilic acid, is obtained by the oxidation of piperine. It forms small, white, prismatic scales, possessing a strong odor of vanilla; a small quantity placed upon the tongue produces a sensation analogous to, but more persistent than that caused by mint. It melts at 125° F., and at a higher temperature volatilizes completely. When ignited, it burns with a flame and smoke like those of camphor. It is insoluble in cold water; in hot water it melts and appears like drops of oil, it is readily soluble in alcohol and in ether. According to Dr. Ricardo Frignani (Gionale delle Scienze Mediche) it possesses both antipyretic and antiseptic properties, which, while not very decided, are yet in many cases sufficient. It should be given in 15-grain doses, repeated every two hours, or three or four times a day. The most noteworthy disagreeable effects are nausea, eructations, and dryness of the throat. As an antiseptic piperonal is very efficient, and will no doubt take high rank among other agents of this class.

HYDRONAPHTHOL NOT IDENTICAL WITH BETANAPHTHOL.—Merck (Pharm. Zeitung No. 5, 1886), has recently claimed that hydronaphthol and betanaphthol are identical. The last has been shown by Pifford and others to have poisonous properties. Dr. J. Wolf (Druggist's Circular September, 1886) claims that these substances are distinct in physiological action and chemically since the molecule of it contains more hydrogen than does one of betanaphthol. If from a diluted iron-perchloride solution two drops are added to an alcoholic betanaphthol solution it becomes of a bright green color, whilst the same proportion of an alcoholic hydronaphthol solution of the same strength becomes dark yellowish brown by addition of the same proportion of iron-perchloride solution. Other reactions are also different, and the melting points obtained by most careful determinations are for hydronaphthol 117° C., and for betanaphthol 122° C. These and other tests satisfy Dr. Wolf that hydronaphthol is distinct from betanaphthol, and is not alphanaphthol nor a mixture of the last named substances.

Editorial.

The Providence meeting of the American Pharmaceutical Association was fairly well attended. The Eastern States naturally furnished by far the largest proportion, while the great territory west of the Alleghenies was represented by less than fifteen per cent. of those present. As will be observed from our report of the proceedings last month the proceedings were unusually interesting. Whether the results will fulfil the expectations of the more enthusiastic members cannot at this time be known, but the harmony which seemed to prevail among the contending elements augurs well for a united, progressive National association. The proceedings, though free from the junketing spirit characterizing former meetings, were nevertheless rather excessively occupied by routine business, sometimes unnecessarily prolonged by debate. Action was taken, however, which promises more time in future for the more important work of the association. Among the most important business transacted by the Association was the indorsement of the work of the committee on the "National Unofficinal Formulary" appointed at last year's meeting. In view of the local character of that committee it was proposed that it be increased by the addition of one member from each State Association. A seemingly strong inimical spirit was manifested toward this eminently just proposition. It was, however, accepted in spite of the esoteric protest of certain ill-advised representatives of the original committee.

This action lends to the work a truly national character. While a strong local committee is certainly desirable to compile the work and carry out the details, it is none the less necessary that the source of the basis of the work should be properly represented.

The amount of business which can be transacted at a convention, allowing, at the same time, due opportunity for discussion, was well illustrated at the sessions of the National Wholesale Druggists' Association at Minneapolis. This must be in great measure attributed to the tact and skill of the presiding officer. Most druggists at the present time are members of some organization in their interest, but the attendance at the annual State and other conventions is usually comparatively limited. Why is it? There may be a variety of causes, but often chief among them is the way in which time is frittered away by reason of incompetent or too indulgent presiding officers. Hours are wasted in haggling over a point in parliamentary usage which a prompt and proper decision from the chair would settle in an instant. Speakers are allowed to roam over all creation when they should be rigidly required to "speak to the question;" long and necessarily fruitless discussions are permitted when there is no question before the house; a half-dozen motions are under consideration at the same time, each with its individual champions, and a veritable Babel inevitably ensues. It thus happens that members who come to the convention, at considerable expense and sacrifice of time, to listen and learn, are filled with disappointment, if not with absolute disgust. Entire sessions are at times consumed over a trifling proposition involving no principle whatever, which, between two men of ordinary intelligence, would be decided without a moment's thought.

If our druggists' conventions are to be made more attractive, efficient and powerful, here is a desideratum deserving of earnest attention. A presiding officer should clearly be chosen not so much to bestow an honor as in recognition of his special qualifications for the position. The vitality and force of any organization are embodied in the capacity of its executive officers at and between the conventions. The Secretary, during the interval of meetings, must bear the brunt of the work in equipping and strengthening committees and arousing interest, but at the sessions a President with judgment, tact and, if possible, experience is needed. A State convention is not the place for academic parliamentary sparring, but for earnest work. To this all else should be made subsidiary. Order and dignity, we may be permitted to suggest, should be inflexibly enforced; trivial routine motions accepted without vote unless there be objection; if there be more than one proposition in a motion separate them, if possible, so as to permit directness and intelligence in the discussion; motions of importance should be in writing; judicious suggestions by the chair as to the propriety, order and form of motions are always valuable in expediting business.

We make these specific references merely to indicate what appears to be vital weaknesses in too many pharmaceutical conventions. If it be said that druggists are not parliamentarians the fact remains that a few hours' careful study of any little manual on the subject would furnish sufficient information for all ordinary requirements.

Various theories have been advanced to account for the immunity more or less complete which an individual acquires from the effects of a contagion by passing through one attack of the disease which it causes. One is that during the course of the disease a substance is formed in the body which is unfavorable to the life of the microbes and they consequently perish, and during the persistence of this substance in the system of the animal it is impossible for the contagion again to take effect. This theory is apparently disproved by experiment. A second theory is that the bacteria which produce the disease by their growth destroy or cause to be excreted the substances on which they feed, and the body becomes a sterile soil in which they cannot thrive. This is the theory accepted by Pasteur. But if this be the true one, it is difficult to see why immunity should last so long as we know it does in many cases. New food is constantly taken into the body, and the old tissues are as constantly disappearing. Moreover, it has been proved that if broth be made of the flesh of an animal proved to be unsusceptible to a contagious disease, the bacteria of that disease will still multiply as rapidly apparently as they do in other culture fluids. Both these theories therefore seems to fail under the test of experiment.

The theory which Dr. Salmon advocates in a recent paper is that which he calls "the vital resistance theory." He believes the living matter of the body after a time, if it survives the effects of the disease, becomes habituated to the germs, and acquires a power to resist them or prevent their growth. He thinks the cells of the body are at first depressed or narcotized by the poison of the microbes, but after a time acquire a tolerance for it, just as a man at first is poisoned by tobacco, but after a time acquires the power to smoke and chew it without inconvenience. After this tolerance of the microbes has been acquired, the nor

mal functions of the body are resumed, the liquids of the body become unfavorable to the growth of the disease organisms, and they consequently perish.

A recent case of poisoning in England shows the desirability of some means of determining the amount of the toxic constituents of crude drugs before using the same in making Pharmacopœial preparations. One of the commonest expectorants and diuretics prescribed is squill. Accidents from it are rather rare; still cases of poisoning by it have been reported by Orfila Pereira Fagge, Christison, Stevenson and others. The testimony as to its toxic effects is conflicting, but it all agrees in pointing to an effect on the heart as the cause of death; this, however, might have been anticipated from the diuretic action of squills. A carefully prepared British Pharmacopœial syrup of squills given in officinal doses has, according to Dr. Truman, (Pharm. Journal and Transactions) caused the death of two children with symptoms of heart-poisoning. Squill, according to Dr. Husemann, contains two heart poisons, scillipicrin and scillitoxin; of these the last affects the heart most strongly, and to it was clearly due the death of the two children. It is obvious that cases of this kind, though rare, must lead to some uncertainty as to the action of the most common preparations. An increased amount of scillotoxin in squill would, of course, increase its efficiency as a diuretic, but at the same time would tend to increase its toxic effect. The present case of squill poisoning increases the necessity for the variety of pharmacological examination of crude drugs advocated in the August number of this journal.

In the department of Queries and Formulas reference is made to the great discrepancy existing in formulas for largely used unofficinal preparations. In the subject under consideration an exceedingly powerful remedy, "Chlorodyne," is made by formulas so entirely different as to give results equally dissimilar in physical characteristics, taste, color, etc., and in their chief medicinal constituents.

Uniformity in this and all other unofficinal preparations can only be secured through a knowledge of the exact formulas in use in different localities, so that the changes be not so radical as to preclude the possibility of their adoption. This is also necessary because modifications should equalize existing differences, and the desired uniformity be obtained with the least friction.

A record of such preparations would be extremely desirable at this time, in order that the most popular and in other respects most satisfactory may be incorporated in the National Unofficinal Formulary. Our readers are therefore requested to favor us with formulas in use in their respective localities. It is proposed to begin alphabetically and collect and publish from time to time such as are transmitted. It is suggested that readers who purpose contributing a large number, begin with preparations under the first five letters of the alphabet. Our request applies to formulas for chlorodyne, elixirs, extracts, fluid and solid emulsions etc. All contributions will be duly acknowledged.

The transmutation of metals the dream of the alchemists, has been abandoned as the wildest of fancies since the discovery of the many "elements" now known by chemists. Spectral analysis has thrown doubt on the elementary nature of these "elements" until the present drift of chemical thought is shown in the recent address of Mr. Crookes before the British Association for the Advancement of Science, who quotes with approval Faraday's words: "To discover a new element is a fine thing, but if you could decompose an element it would be a discovery indeed worth making.... To decompose the metals, then to reform them, to change them from one to another and to realize the once absurd notion of transmutation, are the problems now given to the chemist for solution."

According to the report of the Handel's Archiv., it is the intention of the Japanese Government to require that all chemical and pharmaceutical preparations introduced in Japan shall come from Germany. In this connection it may not be amiss to refer to the fact that America is at the present time supplying Germany with pharmaceutical preparations. Digestive agents, concentrated preparations, extracts, etc., of American drugs are finding their way largely into the German wholesale houses. There is scarcely a city of any note in Germany without an agency of some enterprising American manufacturer. But this is not alone so in Germany; proud Albion long ago yielded the palm, and in London, the metropolis of the world, there is an American firm which already rivals its Briton competitors in supplying remedies for the millions in that empire. While in purely chemical products America cannot compete with Germany, chiefly because of the relatively high cost of production, yet in the line of pharmaceuticals we challenge the world.

Under these circumstances it is rather remarkable, should it prove true, that Japan, the great coming nation, should ignore our supremacy in this industry, and seek its supplies in European markets. The trade of Japan belongs legitimately to America, and our merchants should file their claim without delay, and take possession.

The presidential address before the British Pharmaceutical Conference indicates very clearly that despite the higher status of medical education the prescription of patent medicines was not only as frequent in England as in the United States, but that the practice was growing. The Chemist and Druggist ascribed the patent-medicine prescriptions in Canada to the proximity of the United States. That this explanation was unwarranted was obvious from the lesser amount of patent-medicine prescriptions in this country. The greater prevalence in Great Britain of this practice is readily accounted for. There are many medical men who keep general drugstores and naturally dispense their own medicines in the forms which yield most profit. The habit thus acquired is carried into after life when the practice of pharmacy is abandoned. The use of an unofficinal formulary in Great Britain will therefore meet with greater obstacles than in the United States, since a large proportion of the druggists are not pharmacists, but medical men who are not interested in aught but the purely commercial aspect of pharmacy, and who, according to the London Lancet, are in many instances the worst specimens of the English middle class Philistine, who recognizes facts in the shape of £. s. d, and even these only in the narrowest fashion.

It is gratifying to learn that English pharmacists at the recent meeting of the pharmaceutical conference unanimously favored the compilation of an unofficinal formulary. A committee of ten, with power to add, was appointed to report to the conference next year. Messrs. Greenish, Groves, Martindale, Symes, Tresh, Martin, Naylor, Maben, Abrahams and Reynolds compose the committee, which, representing all sections of the country, give assurances that the work will be done in a thorough and practical manner.

Queries and Formulæ.

WE cordially invite queries for this department on any subject of pharmaceutical interest. Correspondents will give their name and address, but initials only will be printed when desired. It is especially requested that they furnish such information as they may already possess on the subject embraced in their queries. Queries cannot be answered by letter. Communications for this department should be addressed to Editor of the WESTERN DRUGGIST, 69 Dearborn Street, Chicago.

190. ANGOSTURA BITTERS.—A. Oleson (Blooming Prairie, Minn.): The following formula from the Pharm. Zeitung is said to yield a preparation almost identical with the original:

Take of

Angelica, cloves, ginger, each	parts	3
Galanga, gentian, zedoary, each	"	15
Cardamom, cinnamon, Ceyl., each	"	20
Bitter orange peel	"	25
Tonka, red saunders, each	"	80
Cinchona (calisaya)	"	100
Alcohol, 60 per cent	"	5000

Macerate in a warm temperature for fifteen days, express and to the liquid add

Burnt sugar	parts	200
Malaga wine	"	500

Let stand, and filter.

191. GLYCEROLE OF HYDRASTIS.—Weeks, Lattimer & Co. (Jackson, Mich.) desire a formula for aqueous fluid extract of golden seal.

The following formula was adopted by the Illinois Pharmaceutical Association, 1884. Since a preparation cannot be made of hydrastis to represent all the constituents of the drug without alcohol, any preparation not containing alcohol, no matter how serviceable or valuable, should obviously not be termed a fluid extract:

GLYCEROLE OF HYDRASTIS.

Take

Hydrastis, in fine powder	ounces	16
Alcohol	fl. "	32
Glycerin	" "	8
Water	" "	8

or sufficient.

Exhaust the hydrastis with the alcohol previously reduced to the strength of 85 per cent. by the addition of 4 ounces of water in a suitable percolator. To the percolate thus obtained add the glycerin and water, and recover the alcohol by distillation. Let the residue stand for two days to separate resinous matter which deposits, decant the clear liquid, filter it, and add sufficient water to make the preparation measure 16 fluid ounces.

192. PRESCRIPTION QUERY.—E. E. E. (Marion, Ill.) inquires what change would take place, if any, in the following mixture:

℞	Hydrargyri chloridi corrosovi	gr. i
	Potassi iodidi	ʒii
	Syrupi rhei aromatici	ʒii
	Extracti cinchonæ compositæ fluidi	ʒii

Fiat solutio et misce.

Corrosive chloride of mercury, or mercuric chloride as it is more properly termed, forms with the iodine of the potassium iodide red iodide of mercury, which is insoluble in water, and may therefore be detected as soon as formed as a red precipitate. But when the quantity of potassium iodide added exceeds the atomic proportions a double salt, iodide potassii-mercuric, is formed, which is colorless and readily soluble in water (see the Dispensatory under "Hydrargyri oxidum rubrum"). This is exactly what takes place in the above, the potassium iodide being largely in excess of the mercuric chloride. While the prescription is in one sense incompatible, the result is the kind of incompatibility frequently desired in administering a remedy. We may add, however, that in liquid mixtures where mercuric chloride is prescribed it must always be added to the other ingredients in solution. In this case it should be dissolved in a little alcohol. A good plan is to have an alcoholic solution on hand representing one grain of the mercuric chloride in one fluid dram.

193. COLIC-ROOT.—L. H. B. (Peru, Ill.) inquires why two different drugs are called colic-root.

There is no accounting for the provincial or common names bestowed upon many plants, and especially when any portion of these are employed in domestic practice. According to the best authorities, "colic root" is the vernacular applied to Dioscorea villosa, generally termed wild yam, probably on account of its reputed efficacy as a remedy in colic. For a full description of the root, or as it should properly be termed, rhizome, of this plant, see this journal for July, 1885. Aletris farinosa, star grass, also known as unicorn root, is sometimes called colic-root, and this is given as the English synonym in the National Dispensatory, but this authority also states that Dioscorea "is known as colic-root in Iowa." The name is also bestowed upon Liatris spicata, button snake root, in some localities. In view of these facts its use should be abolished.

194. TROY VS. AVOIRDUPOIS WEIGHTS.—P. H. (Manchester, Ia.) desires to be informed upon the following in order to settle a dispute: If buying by the avoirdupois ounce and selling by the troy grain a loss of 42½ grains is sustained, should not a gain of 1,240 grains be made when buying by the avoirdupois pound and selling by the troy grain?

The correspondent has evidently forgotten the fact that a grain is a grain, that is, there is no difference between a troy and an avoirdupois grain, the grain being the unit in both the two systems of weights. In the first instance there will of course be a loss as indicated unless it be remembered that in, for example, one avoirdupois ounce there is only 437½ grains. The cost per grain must be calculated from that number, and not from 480. For example, if quinine per ounce costs $1, the cost per 10 grains would be:

100+43.75=2.11 + cents per 10 grains.

The avoirdupois pound contains 7,000 grains; the troy pound, 5,760 grains. This difference should be considered when the cost is calculated.

195. PILL EXCIPIENTS.—Subscriber (San Francisco, Cal.): The nature of excipient for pills must be determined from the character of the ingredients, as no one substance could fill every indication. Glycerite of starch, glycerite of tragacanth, or glucose will probably answer the purpose in a greater number of cases than any other one excipient (see this department, page 43, 1885, where their mode of preparation is also given). Simple syrup is recommended by Clay W. Holmes as a general excipient preferable to any other. For a brief scientific treatise on pills and excipients, see this journal, page 233, 1885, from Lecture IV. National Institute of Pharmacy.

196. HAIR-DYE.—"A Reader" (Sharpsville, Ind.) reports that the formula for hair-dye is unsatisfactory. The particular formula in question is not specified, nor does "Reader" give his name. We publish another, however, but desire to state that to apply a hair-dye successfully requires some skill; besides, the hair must be perfectly clean and free from grease.

NO 1.

℞ Acid pyrogallic.....drams 1
Distilled water.....fl. ozs. 4
Alcohol..... " 1
Dissolve.

NO. 2.

Silver nitrate.....drams 1
Distilled water.....fl. " 4
Ammonia..... " " 2
Mix.

A preparation which dyes the hair progressively was discovered by Nacquet several years ago. Any shade desired may be imparted by increasing the number of applications. The following is the formula (published in this journal, December, 1882):

One hundred parts of bismuth are dissolved in the smallest possible quantity of ordinary nitric acid (about 280 parts). To this add a solution of 75 parts of tartaric acid in water, and then a considerable quantity of water to insure complete precipitation. The mixture is thrown upon a filter, and the residue washed with water until the washings are no longer acid. The magma left on the filter is dissolved in solution of ammonia gradually stirred in. Seventy-five parts of hyposulphite of sodium in powder are dissolved in this liquid, the product filtered, and bottled. It may be further diluted with water if desired. The hair or beard when saturated with this liquid acquires after five or six hours, a deep chestnut color. Upon washing the hair this color disappears, giving place to a delicate flaxen color. By repeating the operation daily a stage is arrived at when, after passing through all the intermediate shades, the deep chestnut color remains persistent.

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197. CHLORODYNE.—K. G. K. (Chicago), in preparing chlorodyne after the formula of the U. S. Disp., desires to be informed how the green color may be made permanent as in the case of preparations made after other formulas. Also what formula is most largely in use.

The formula known as Smith's, modified by Bernhardt, is said to yield a very satisfactory preparation. It was recommended by the Wisconsin Pharmaceutical Association in 1883 (see this journal, October, 1883), and is as follows:

Take of
Chloroform.....fl. drams 4
Morphine hydrochlor.....grs. 20
Oil of peppermint.....m. 4
Tincture capsicum..... " 50
Fluid extract cannabis Ind.....fl. drams 2
Acid hydrocyanic dil..... " 2
Mucilage acacia..... " 1
Syrup sufficient to make..... fl. ounces 4
Caramel sufficient to color.

This formula differs from that in the U. S. Disp. (15th ed.) mainly in its consistency, color and morphine strength. The caramel in the above is added with the view of imparting to the mixture the brownish color peculiar to the original compound "discovered by J. Collis Brown," derived from treacle.

In the formula devised by Prof. Remington, which is no doubt the one referred to by our correspondent in the U. S. Disp., also appearing in the National Disp. under the title *Liquor Chloroformi Compositus* the treacle (molasses) has been superseded by alcohol. While this is undoubtedly a better solvent than any saccharine or mucilaginous liquid, it is a question whether or not in that case it would be a satisfactory substitute for the "original" article. For better comparison we publish the formula referred to, as follows:

Morphine mur.....grains 32
Water.....fl. dr. 2
Acid hydrochlor..... " 3
Chloroform..... " 6
Tinct. cannabis Ind..... " 4
Acid hydrocyanic dil.....m 48
Alcohol.....fl. oz. 2
Oil peppermint.....m. 8
Oleoresin capsicum (or of the tinct. 32 m.)..m. 4

The morphine is dissolved by heat in the water and acid, and when cold added to the other ingredients previously mixed.

It will be observed that the above contains eight grains of morphine to the fluid ounce as compared with five grains in the other; also 50 per cent. more chloroform, and twice the quantity oil of peppermint. In other respects the two formulas are equally at variance, the last mentioned being the strongest except in cannabis Indica. As to the green color, the first formula would yield a preparation more green in color on this account by leaving out the caramel.

It is evident that if the demand for this preparation is to continue, some standard formula should be adopted. In order to secure reliable data for use by the Committee on the National Formulary, all readers are requested to forward a copy of the particular formula in use in their locality, with such brief remarks thereon as may be deemed desirable, to C. S. Hallberg, care of this office.

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198. FLUID EXTRACT BUCHU.—F. C. W. (Cleveland, Ohio) inquires why in preparing fluid extract of buchu according to the formula in the U. S. Disp. 1881 the product should have a dark brown color instead of a deep green.

Our correspondent is reminded that the U. S. P. '80 is the only authority by which preparations should be made. The U. S. or any other Dispensatory will answer equally well only when the formulas given are those official in the Pharmacopœia, at the present time the standard authority. Since the U. S. Dispensatory was not revised until 1883, the Pharmacopœia appearing late in 1882, it is evident that the correspondent is in error as to the time. Fluid extract of buchu, or alcoholic preparations of drugs generally rich in chlorophyll, to which their green color is due, appear dark brown in color when viewed by reflected light, whilst beautifully green by transmitted light. This might be the explanation of the difference of color.

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199. LATIN TERMINATION.—Satisfaction (Salt Lake City, Utah) inquires which of the following terms upon a label is correct: "Tinct. nucis vomicæ," or "Tinct. nux vomicæ;" to decide a controversy.

The former is correct, "nux" being of the third declension, and here takes the genitive—nux, nucis, etc.

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200. THE CONVERSION OF METRIC WEIGHTS.—Robert A. Wilson (Black River Falls, Wis.): The simplest plan is to take 1 gram as equivalent to 15 grains; we then have:

4 grams — 60 grains or 1 dram.
32 grams — 1 ounce.
0.1 or 1 decigram — 1.5 grains.
0.01 or 1 centigram — 0.15 (1-6 app.) grains.
0.001 or 1 milligram — 0.015 (1-60 app.) grains.

The fluid measures may be calculated in the same way. For fuller illustration of the various methods employed

for conversion, and for expositions of the metric system, see previous numbers of the W. D.

201. BORIC vs. BORACIC ACID.—D. J. F. (Niles, Ohio) inquires whether the above terms indicate the same substance, or which of these is correct.

This acid was discovered in the beginning of the seventeenth century, and since then chiefly made from borax, sodium borate. From this fact, and in conformity with the older chemical theories, the acid was termed *boracic* acid. When made officinal in the U. S. P. '80, a title was adopted to correspond with the existing chemical theories that the acid is a direct union of the element boron with hydrogen and oxygen by the addition of the usual termination *ic* to the radical *bor*, namely, *boric*. While this title is perhaps not as euphonious as the old name, there is no question as to its correctness.

202. PAIN-KILLER.—Wick Bros. (New Hartford, Ia.): The following is said to be similar to Perry Davis':

Tincture myrrh	fl. oz.	½
" guaiac	"	1½
" capsicum	"	1
Spirit camphor	"	2
Alcohol	"	3

Alkanet sufficient.

Macerate for a day, then filter.

203. BLUE-BLACK INK.—W. T. Carr (Trenton, Ill.): Several formulas have been already published this year. The following is said to yield a good blue-black ink:

Take of

Galls	oz. 10
Water	" 40

Boil for two hours, then macerate for two days; strain, and add water enough to make 40 ounces.

Indigo	oz. 2
Acid sulphuric	fl. oz. 8

Digest for twenty-four hours, make up to 30 ounces with water, add

Chalk	oz. 3
Iron filings	" 4

Digest for another twenty-four hours; then decant, and mix with the gall solution, and add enough water to make 4 pints.

204. MAGNESIUM SALICYLATE.—C. T. I. (Akron, Ohio): This combination is not mentioned in any work of reference at hand. When a saturated solution of salicylic acid in hot water is added to magnesium carbonate no evolution of carbon dioxide took place, but formed a gelatinous mixture upon cooling. From this we should conclude that no reaction took place, and that the existence of the compound is doubtful.

205. DISTILLATION OF OIL OF WINTERGREEN.—R. A. W. (Black River Falls, Wis.) inquires as to the best method for distilling oil of wintergreen from the plant in quantities of 300 pounds at one operation.

It can only be done advantageously by the employment of steam. We cannot here give detailed particulars, but in a general way the distillation is conducted by placing the moist plant in a vat into which live steam enters at the bottom. The vapor escaping at the top of the vessel is collected and conducted into a well-cooled receiver.. From the watery distillate the oil will gradually separate and float to the surface, when it is collected and stored in tins or glass vessels. Such is the outline of the process. Further information may be gleaned from the paper on oil of peppermint by Mr. Albert M. Todd, Nottawa, Mich., one of the largest producers of oil of peppermint in that State.

206. COMPRESSED PILL MACHINE.—W. H. P. & Co. (Pittsburg, Pa.) inquire where a hand machine for making compressed pills may be obtained possessing better working capacity than that illustrated by Prof. Remington.

A machine known as the "McFerran" is sold in Philadelphia by Richard Sommers; it may be used with either hand or steam power. It is quite elaborate, provided with an automatic feeding arrangement, etc., and therefore quite expensive. We know of nothing cheaper.

207. A PUZZLE.—Fred Vivian (Mineral Point, Wis.) received an order for "Hindionmockry," legibly written. Upon inquiry it was learned that the preparation was intended for an ingredient in an ointment to be used in veterinary practice. Red iodide of mercury was dispensed, and since the article was never returned, it was concluded that this presumption was correct.

In view of the fact some preparation of mercury was undoubtedly intended, and red iodide is the form chiefly employed by veterinarians, we think the correspondent dispensed the right article.

208. LYCOPUS VIRGINICUS.—L. C. Lewis (Belvidere, Ill.) sends a specimen of a plant for identification reputed of much remedial value in obstinate ulcers and bowel complaints.

The plant was easily recognized as belonging to the natural order Labiatæ, and to be the common bugle-weed Lycopus virginicus.

209. A TEUTO-PHONETIC RECIPE.— C. B. Q. (Detroit, Mich.) sends the following:

℞ Berokalitt assitt.
Silber schaum.
Amoniack.

The two last mentioned, when taken in connection with hair-dyeing, give a clue to the first item.

210. CARBOLIC SOAP.—I. B. Hardgrave (Bolton Depot, Miss.) will find a formula for this upon a following page.

211. MICA LABELS.—A subscriber desires to be informed if the mica labels for shop bottles are as durable as the ordinary glass labels. Information from readers will be duly acknowledged.

A. J. G. & Co. (Grand Rapids, Ohio): We have no reference to the subject of your recent communication. Please give date of issue and page.

An "Old Subscriber" informs us that having tried the formula for cream of roses he finds it worthless, etc. He also begs to differ in opinion regarding the composition of a fragrant cream as stated by us.

When "Old Subscriber" gives his name and specifies the particular formulas criticised, mentioning the page upon which they appear, it will enable us possibly to rectify any error.

Recently many communications have been received without the writer's name. Correspondents are requested to comply with the provisions in the notice at the head of this department. While the full name is never published when so requested, it is absolutely necessary, for obvious reasons, that the identity of all correspondents be known. Communications referring to any item in this department should give the number, and if to matter in other departments, the title of the article, and, when possible, the page and date of issue, to insure a prompt and otherwise satisfactory response.—ED. W. D.

NOTES TO THE EDITOR.

PILLS POTASSIUM IODIDE.

[To the Editor].—In the W. D. for September, in answer to a correspondent, it is stated that the deliquescence of pills of potassium iodide is due to water contained in the salt, instead of, as I believe, to the affinity of the contaminating potassium carbonate for atmospheric water.

I may add that I have found powdered althea root an effective conspergent with this pill, which should be also dispensed in glass (vial). E. B. STUART.

CHICAGO COLLEGE OF PHARMACY, Sept. 22, 1886.

A LABELING SCHEME.

[To the Editor.]—Below is a blank card that I have placed upon the back of all my shelf bottles for a ready reference. Would it not be a good idea for some one to print a similar label containing the proper dose, strength, common names, etc., of all medicines generally kept in shelf bottles, and place them on the market?

Z. L. MARTIN.

HUBBARD, IOWA, September, 1886.

Name.... .....
Properties..... .....
Strength..... .....
Dose..... .....
Incompatible with .....
.....
Antidote..... .....
Price.... .....

[A line of labels similar to the above was published by Lochman several years ago. The idea is a good one.—ED. W. D.]

MIXTURA FERRI C. ERGOTÆ.

[To the Editor.]—A prescription calling for mixtura ferri cum ergotæ was received from a leading physician. Upon requesting the formula I was informed "that it would not pay me to make the mixture, as the different ingredients were all to be exceptionally pure, and hence were expensive."

I have seriously considered the feasibility of owning my own ore, mine and chemical refinery, and to raise the ergot under my personal auspices hereafter to gratify the highest expectations of our most fastidious practitioners. Here is a chance for a pharmacal company. W. B.

CHICAGO, Oct. 1, 1886.

[The true inwardness of the expensiveness of the above was probably the fact that a "rebate" was allowed the ardent battler for the relief of bodily ailments. We request the formula from our readers.—ED. W. D.]

THE TERROR OF ELIXIR IRON QUININE AND STRYCHNINE.

Not long since I tried the formula of Wick Bros. (as published in August number of W. D.), using great care in following directions exactly; but on adding "the iron gradually to the alcoholic mixture, constantly stirring until clear," the mixture did not become clear, but resulted in a turbid liquid, which deposited on standing some time, a copious precipitate.

Now, Messrs. Wick Bros., what is the "terror" in your formula? What is the remedy? A. C. MOORE.

AMELIA, OHIO, Sept. 18.

[We think, in view of the multiplicity of formulas, that the variation in materials employed and defective manipulation are more responsible for unsatisfactory results than deficient formulas.—ED. W. D.]

ELIXIR IRON, QUININE AND STRYCHNINE.

[Editor the Western Druggist.]

I notice that the elix. iron, quinine and strychnine continues to be a subject of much discussion in the journals I shall be pleased to offer my experience with the formula.

I prepare it as directed, with the exception that I leave it very slightly acid in its reaction. It is my experience that if left neutral or, as it often may happen, alkaline in reaction, the reddish discoloration takes place very soon, especially on exposure to the light. The discoloration I attribute to the action of aqua ammonia with pyrophosphate of iron. This has furnished me an elixir in every way satisfactory. E. E. HUYCK.

CLIO, MICH., Sept. 24, 1886.

NOTE ON SACCHARIN.

On page 342 of your September number you say, in answer to an inquiry, that "Saccharin" is obtainable through any wholesale druggist, and costs about $12 a pound. We would, however, call your attention to the fact that the article is not yet in the market, and wha ever small quantities were sold were but samples of one gram each, and sold by us as the only holders of a very limited quantity, furnished us through the kindness of Dr. Fahlberg. Preparations are in progress in Germany to manufacture the article on a large scale; the manufacturers, however, do not expect to have any ready before the 1st of January next, after which time the price will be considerably reduced. Yours truly,

LEHN & FINK.

NEW YORK, September, 1886.

[The statement in our last to which the above refers was based upon the report of an alleged interview in a New York journal, in which Dr. Fahlberg should have vouchsafed the information.—ED. W. D.]

ON THE PURIFICATION OF WATER BY ALUM, Peter B. Austin (Textile Colorist; Pharm. Journ. and Trans., p. 86, '86) gives some interesting information. A number of experiments were instituted with the view of determining the end reaction, or the smallest quantity of alum required for the clarification of different kinds of water. City water containing an average of impurities was found to require about two grains of alum to the gallon. The alum should be dissolved in a little hot water, and then added to the impure water and thoroughly mixed with it. Complete separation takes place in the course of six or seven hours, which is hastened by adding the alum in excess. This has the disadvantage, however, of leaving the water contaminated with the free alum, or the portion not combined with the impurities, and is objectionable for some purposes. But when the exact amount has been employed the impurities settle in the form of a magma to the bottom, leaving the water perfectly clear and free from any appreciable amount of alum. Potassa alum is the kind of alum employed; being a double sulphate of aluminum and potassium, it breaks up into insoluble basic aluminum sulphate, which precipitates as an insoluble magma, carrying all the organic impurities with it, and the sulphuric acid set free forms insoluble compounds with the alkaline earths, calcium, etc., mostly always present in waters. According to this reaction the potassium sulphate only remains in solution, and that in almost minute quantities.

COPPER ACETATE IN SUPPURATION.—Luton (Journal de Méd. de Paris) finds copper acetate in one-seventh grain doses to be of value in treatment of suppurating glands.

FORMULAS.

STEARIN SOAP.

(From Dietrich's Manual.)

Stearic acid	grams	1000
Sodium carb. cryst.	"	585
Water	"	3750
Alcohol	"	100
Sodium chloride	"	250

Dissolve 560 grams of the crystallized carbonate of soda in 3,000 grams of water; transfer this solution to a steam bath, and gradually add the stearic acid with constant agitation; then add the alcohol; cover the vessel and allow it to remain upon the steam bath for six hours to separate the soap; add the sodium chloride and the remainder of the sodium carbonate dissolved in the remainder of the water; transfer the whole to a strainer, and when cold press out the remainder of the moisture.

LIQUID ARNICA SOAP.

Arnica-opodeldoc.

Stearin soap	grams	50.0
Olein "	"	10.0
Alcohol	"	690.0
Tincture of arnica	"	250.0
Oil of arnica	drops	2

Dissolve the soaps by digestion in the alcohol and add the other two ingredients. It is best preserved in brown glass jars protected from the light.

OX-GALL SOAP.

Ox-gall	grams	100
Stearin soap	"	90
Borax, powdered	"	10
Alcohol	"	15

Mix the first three ingredien's at a slightly elevated temperature; then ad l the alcohol; transfer the whole to a flat-bottomed vessel, and when cold cut the soap into convenient pieces.

SOFT OX-GALL SOAP.

Ox-gall	grams	100
Potassium soap	"	50
Sodium "	"	40
Borax	"	10
Ammonia water	"	10

Mix the ingredients at a slightly elevated temperature.

CARBOLATED SOAP.

Stearin soap	grams	75.00
Carbolic acid	"	25.00

Mix the ingredients in a slightly warmed mortar and press it in soap moulds. As the soap is very slowly soluble the percentage of carbolic acid is not too large. It is well calculated for physicians' use.

LIQUID GLYCERIN SOAP.

Potassa soap	grams	30.0
Glycerin	"	30.0
Simple syrup	"	30 0
Alcohol	"	10.0
Oils of cinnamon, geranium, wintergreen, sassafras, each	drops	2
Oils of cloves, citronella, bitter almonds, each	"	1
Oil of bergamot	"	6
Tincture of musk	"	5

Mix and filter after standing a few days.

IODOFORM GAUZE.

The ingredients, according to Ghillany, are as follows:

Glycerin	grams	50.0
Resin	"	100 0
Alcohol	"	1000 0
Iodoform	"	40.0

The gauze is impregnated with a solution of the above.

To make the tannated iodoform gauze substitute 20 grams of io loform and 20 of tannin for the last ingredient in the formula.

MEDICAL NOTES.

STRYCHNINE ARSENIATE has been found by Dr. Roussel (Journal de Medecin de Paris) to be the best adapted for hypodermic administration.

AMMONIA CARBONATE IN BREAST ABSCESS.—Dr. Miall (British Medical Journal) states that breast abscess can be checked by the frequent application of ammonia carbonate, an ounce to the pint of hot water.

HYGRINE (Journal de Medecin de Paris), an alkaloid, obtained from exhausted coca leaves, produces pupillary dilatation, but of less duration than that of atropine. It yields more quickly to eserine antagonistic action.

LINSEED OIL IN FUNDAMENT ITCHING.—The free external use of linseed oil (Boston Medical and Surgical Journal) in fundament itching has been followed by rapid relief. It needs to be used for some time after the disappearance of the itching.

COPPER ACETATE IN CONSUMPTION.—Dr. Luton (Journal de Medecin) has found copper acetate of great value in diminishing the cough, night sweats, and fever of consumption. Dr. F. E. Baxter found Rademacher's tincture of copper of value in anæmia.

"Watermelon Honey" (Northwestern Lancet) has been found of value in the treatment of dropsy and allied conditions by Russian physicians.

ANTIPYRIN GIVEN WITH ARSENIC raises the temperature and causes an eruption resembling that of measles.

AMYL NITRITE INHALATIONS IN WHOOPING COUGH.—Dr. Harris Lewis (Medical and Surgical Reporter, Sept. 4, 1886) has found that 3 drop amyl nitrite inhalations check the severe paroxysms of whooping cough.

VACCINE LYMPH cultivated in sterilized mushroom jelly in Finland, has been used for vaccination, it is said, with success.

FREE CHLORINE IN MURIATIC ACID.—Free chlorine has lately been shown to be constantly present in muriatic acid.

HYMENODICTYONINE is an alkaloid from Hymenodictyon excelsum; a plant allied to cinchona, which has the formula $C_{28}H_{40}N_2$. It has anti-periodic properties.

MOTH PATCHES IN WOMEN.—Monin (Gaz. de Gynéc, July, 1886) recommends in moth patches the use night and morning, of the following:

℞ Cocoa butter, Castor oil	each	drachms 2½
Zinc oxide	grains	3½
White precipitate	"	1½
Rose essence	minims	10

M.

Also:

℞ Boracic acid	parts	5
White wax	"	5
Paraffin	"	10
Almond oil	"	30

M.

THUJA OCCIDENTALIS IN SYPHILITIC WARTS.—Dr. Houdé (L'Union Medicale) has had good results in the treatment of these from the internal use of thirty drops of the fluid extract of thuja occidentalis twice daily.

EUPATORIA AYAPANA is much used on the Isle of France in the treatment of dysentery.

THE INCORPORATION OF WATERY SOLUTIONS in petrolatum ointments is, according to the Pharm. Zeitung, easily effected by the addition of one-half of one per cent. of purified wool-fat. The mixture is complete and perfectly homogeneous.

A NEW COLLODION is prepared (L'Union Pharmaceutique-Orosl) from: Mastic, in powder, 3 grains; Peru balsam, narcotin, each one dram; chloroform, 5 drams. Make a solution by agitation. It is recommended as an application in neuralgia and acute rheumatism to stop the pain. When spread upon linen said to be an excellent substitute for adhesive plaster.

MARTIN'S DEPILLATORY is prepared by adding enough of china clay to a solution of hydrosulphide of calcium to make a paste. It should be prepared extemporaneously.

A PASTE FOR TIN is prepared from: Flour, 1 ounce, made into a thin paste, with a weak solution of glue in water, and the addition of two drams of Venetian turpentine.

GELOSIN, a mucilaginous substance obtained from Gelodium corneum by Guerin (Bull. Gen de Therap.) is amorphous, uncrystallizable, colorless and free from nitrogen. It is soluble in warm water, forming a transparent jelly which can be formed into any shape, and will be found valuable as a vehicle for many in water soluble medicaments. It takes up 550 times its volume of water.

TRIBROMALLYL, discovered by Wurtz from the union of iodallyl with two and a half times its weight of bromine (Archiv. de Pharm) is a colorless and (in ether) soluble liquid of the s g. 2.436. Fleury has found it of value in hysteria, asthma, whooping cough, etc., in capsules containing five drops, or hypodermically in doses from two to four drops dissolved in ether.

THE PRESENCE OF AN ALKALOID IN OLD FLOUR has been determined by Ballard (Journ. Phar. et Chim) by extracting the flour with ether. Upon evaporation, the ethereal liquid leaves a residue consisting of a fatty and acid substance, which, especially from old flour, possesses a penetrating and disagreeable odor and leaves a burning sensation upon the tongue. By treating this substance with warm water for a few minutes, the presence of the alkaloid is easily recognized by the reaction between a few drops of the filtered liquid upon a watch glass by Mayers solution, or any of the common alkaloidal reagents. As to the cause of the formation of this alkaloid Ballard is of the opinion that it is produced by the transformation of the gluten through the influence of the natural ferments of the grain.

LIQUID ARSENICAL SOAP.

(Sulphuret of arsenic opodeldoc.)

Stearin soap	grams	75.0
Olein "	"	50.0
Alcohol	"	670.0
Oil of lavender	"	2.0
Arsenious acid	"	10.0
Water	"	143.0
Solution ammonium hydrosulphuret	"	50.0

Dissolve the soaps by digestion in the alcohol; add the oil of lavender and the other ingredients previously dissolved in the water. The finished product should weigh 1,000 grams.

ILLINOIS UNOFFICINAL FORMULARY.

REPORT OF COMMITTEE AT ROCKFORD MEETING—ABSTRACT.

The committee had taken up nearly all the formulas of the N. Y. & Br. Formulary with a view of determining their practicability, and whether or not any of these could be improved upon either in the method of manipulation or in construction. The committee further held, as of paramount importance, that the formulas should yield products as nearly identical to those preparations which they were intended to replace as possible in color and taste, and especially that they be of the same strength.

It was also deemed desirable that the formulas should be as simple as possible, and that in their construction officinal preparations should be given the preference. From these considerations the committee report the following modifications and additions to the list included in the N. Y. & B. Formulary:

Elixir Adjuvans: An increase in the quantity of glycyrrhiza from 6½ avoirdupois oz. to 10 avoirdupois oz. to the gallon, with a view of rendering it a more effective vehicle for disguising the taste of bitter and saline drugs, and also to deepen the color. With this modification this elixir is a deservedly popular vehicle and adjuvant.

Elixir Bismuth: The bismuth and ammonium citrate prepared by Mehu's process, modified by Macewan, makes a preparation less liable to precipitation. The same change is recommended in all the bismuth combinations.

Elixir Cathartic Comp, is regarded as an exceedingly unpharmaceutical preparation, and one meeting with little if any favor from physicians.

Elixir Laxative Compound is recommended instead, being substantially similar to several preparations now extensively employed with great favor in the Middle and Western States. The following is the formula:

Fluid ext. Cascara sagrada	fl. oz.	2
" " butternut bark	"	1
" " licorice root	"	1
Tinct. cardamom comp	"	½
Senna, coarsely ground, grains		560
Aromatic spirit	fl. oz.	2
Alcohol	"	1
Sugar, avoirdupois	"	7
Water sufficient to make	fl. "	16

Exhaust the senna with boiling water so as to obtain an infusion measuring 5 fluid ounces, when cold add 1 fl. oz. alcohol, let stand, and in the clear liquid decanted from the sediment dissolve the sugar, mix the syrup with aromatic spirit and the tincture cardamom comp. then with the fluid extracts, and finally add sufficient water to make 16 fluid ounces. The dose is one to two teaspoonfuls in habitual constipation.

Elixir Cinchona: to be prepared from a detannated tincture (50 per cent.) and to contain *five* grains of cinchona Calisaya to the fluidram instead of two grains as in the N. Y. & B. formula. All the compound elixirs of cinchona to be prepared from the detannated tincture instead of the U. S. P. tincture, or the alkaloids. The detannated tincture is prepared according to the U. S. P. process for assaying the bark, a very convenient and exceedingly practical method. Good, almost positive, reasons are given why all elixirs of cinchona should be made from the bark instead of from the alkaloids or their mixtures.

Elixir Quinine Iron and Strychnine Phosphate: In the manipulation the alcoholic solution of the alkaloidal salts to be poured into the hot solution of iron, phosphate and sugar instead of the reverse. A fair preparation results, but the use of the hydrochlorate instead of the sulphate of quinine is regarded as being to be preferred. It is recommended that the proportion of strychnine be reduced to 1-100 grains to the fluidram. The proportion in the N. Y. & B. For. 1-50 gr. is a dangerous one.

Elixirs Gentian and Gentian and Chloride of Iron, contains very little gentian, but an increased proportion rendered the preparation exceedingly bitter, and an increased strength is not to be recommended. The fluid extract should be employed in the preparation of the elixir in preference to the solid extract.

Elixir Glycyrrhiza, 1 ounce purified extract to the pint instead of 2 fluid ounces of the fluid extract.

Elixir Guarana, reduced in strength from 11¼ grains to the fluidram to 10 grains.

Elixir Pepsin and Combinations, prepared from a concentrated glycerole of pepsin made from pure pepsin or sacch. pepsin U. S. P. instead of from the variable scale pepsins. By this method the use of acids for dissolving the pepsin is avoided and a reduction in the proportion of alcohol is rendered possible, both of which features are of great advantage. (Formulas were given.)

Elixir Rhamnus Parshiana: The intense bitter taste may be better masked by substituting 4 fluid ounces, elixir glycyrrhiza for the same quantity elixir in the formula.

Elixir Simple: Formula very satisfactory, except that the employment of an aromatic spirit is recommended, in which the proportion of orange peel has been doubled. Specimens exhibited of both left no question as to which formula should be preferred. With the increased quantity of peel, the preparation still represents much less oil than the spirit obtained by solution of the oil in alcohol.

Elixir Taraxacum Comp.: To discard the use of pure extract of glycyrrhiza and in view of the great extraction required to use the equivalent of the root instead, or increase the quantity of the latter 50 per cent. over these directed.

Emulsions: The N. Y. & B. Formulas must be regarded as a dismal failure. The formula for the stronger emulsion is radically wrong. By leaving out the sugar and doubling the quantity of acacia, a fair preparation results. But like all acacia, or other gum emulsions, it soon separates. Condensed milk is recommended as an emulsifying agent, three of condensed milk to 4 of oil, 1 of water parts by weight yields a very permanent and palatable emulsion to which is added 10 per cent. of glycerine to retain the fluidity. A number of more formulas were given.

[Signed by A. Scherer, R. E. Rhode, Jno. Conrad, H. W. C. Martin, A. E. Ebert and C. S. Hallberg].

REVIEWS.

ELEMENTS OF INORGANIC CHEMISTRY, descriptive and qualitative. By James H. Shepard; Boston: D. C. Heath & Co., 1886.

This class-book of chemistry is by the Professor of Chemistry at the high school of Ypsilanti, Mich. The impression gleaned from a perusal of its pages justifies confidence in the merit of the work as a textbook for high school scholars and others, with the same comparatively limited opportunities and facilities for the acquisition of chemical knowledge. To the beginner in chemistry it certainly presents the subject in an easily comprehended manner, and, unlike many works of the kind, its style is easy, natural and interesting—one which cannot fail to impress the most unpromising beginner.

It contains the usual amount of chemical philosophy, with due consideration of the chemical elements of inorganic acids, bases and compounds, but, in addition, includes tests for the various substances to which reference is made.

This latter feature, in connection with the new scientific chemical nomenclature presented, and the concise directions for a laboratory outfit, leaves little to be desired. The work is a duodecimo volume of 317 pages.

DRUGS AND MEDICINES OF NORTH AMERICA. By. J. U. & C. G. Lloyd, Cincinnati, O : Vol. II., part I.

The first volume of the work, consisting of nine numbers, has been completed, and when bound will form a valuable addition to the library of pharmacists and physicians. With the beginning of the second volume, the first part of which has recently been published, the authors call attention to a change in the programme, by which the publication of succeeding numbers will be greatly accelerated. It is proposed to deviate from the original plan and treat of the drugs as the materials and the opportunity for investigation permit, instead of in strict botanical order as heretofore. This arrangement will, no doubt, be as gratifying to subscribers as it will be convenient to the authors.

In regard to the work, this present volume shows the same care and patient labor as the foregoing parts. It treats of Liriodendron tulipifera and the two different species of Magnolia M. glauca and acuminata, from which the officinal bark is obtained. A full description, with illustrations, are also given of Magnolia umbrella and M. grandiflora.

FORMULARIUM OF UNOFFICINAL PREPARATIONS of the Pennsylvania Pharmaceutical Association. Reprint from Pharm. Rundschau: New York, 1886.

A pamphlet of over fifty pages, containing about 150 formulas, the result of the labor of the following committee: Alonzo Robbins, Jos. P. Remington, Chas. A. Heinitsch, Chas. A. Cressler and Chas. T. George, chairman.

The official proceedings in pamphlet, of the annual meetings of the following State Pharmaceutical Associations have been received: Connecticut, Iowa, Kansas, Kentucky, New York and Pennsylvania. Of these New York and Pennsylvania are naturally the most voluminous, though nearly equaled in size by that of Iowa, which contains the proceeding of the two meetings—'85-'86—also well executed phototypes of the two last presidents of the Association. The Pennsylvania Proceedings contain the formulary of the Committee on Unofficial Preparations contributed this year. The New York report is the most elaborate, but in our opinion its value would be greatly increased if the full title of such papers in the body of the proceedings were given, instead of simply the number of query. The discussion which follows would be more interesting when the subject under discussion is seen at a glance, and without referring to the index.

NEW HAMPSHIRE PHARMACEUTICAL ASSOCIATION.

The thirteenth annual meeting of the Association was held at Hotel Windsor, Manchester, N. H., Sept. 14, 1886. The Association was called to order by President M. S. Woodman who, after the transaction of the usual routine business, delivered his annual address. Mr. E. G. Frothingham of Haverhill, Mass., delegate from the Massachusetts Association, in response to his introduction, delivered a very pleasant address. The Association then adjourned till 2:30 P. M.

After the meeting had been called to order in the afternoon the Committee on Nominations, consisting of Dr. E. H. Currier, Manchester; C. F. Hildreth, Suncook, N. S. Whitman, Nashua, and Ned F. Sleeper, Laconia, reported the following nominations, which report was adopted.

President, N. S. Whitman, Nashua; Vice-Presidents, G. F. Underhill, Concord; and Ned F. Sleeper, Laconia; Secretary, C. B. Spofford, Claremont; Treasurer, F. A. James, Manchester; Auditor, A. D. Smith, Ph. C., Manchester; Reporter on Pharmacy, C. F. Hildreth, Suncook; Executive Committee, E. H. Currier, Manchester, C. B. Spofford, Claremont; J. O. Burbank, Manchester.

Mr. Spofford then read the report of the Committee on Unofficinal Formulas, which was adopted and the following resolution passed: "Resolved that the Association adopt the New York and Brooklyn Formulary and that the Secretary purchase for each active member a copy of the revised edition."

Mr. E. H. Currier read the Report on the Progress of Pharmacy. He discussed new discoveries and preparations, pharmacy laws and their workings in the different States, referred to the unofficinal formulary, the mistakes of druggists, the collusions between physicians and druggists, and briefly alluded to the future of pharmacy. Mr. Spofford read for C. A. Tufts of Dover, the report of delegates to the American Pharmaceutical Association. R. C. Dickey of Hillsborough, read the report of delegates to the National Retail Druggists' Association. Following these reports a discussion ensued relative to the time and place of future meetings, the addition of social features to the meetings and the question of a two days' session. These were all referred to the Executive Committee with power to report at an adjourned meeting to be held on Jan. 25, 1887.

On motion the officers named in the report of the Committee on Nominations were elected. The President then appointed the following committees:

Papers and Queries: A. D. Smith, Manchester; and A. E Wallace, Nashua. Unofficinal Formulæ: M. S. Woodman, W. Lebanon; E H. Currier, Manchester; C. B. Spofford, Claremont. The Association then adjourned to the fourth Tuesday in January, 1887.

CELLARS TO BE KEPT COOL AND DRY (Apoth. Ztg.) should be ventilated only when the air without is colder than that within. If warm, moist air be allowed to enter a cool cellar it will deposit its moisture upon the walls, giving rise to mold, etc. For that reason ventilation should only be resorted to on a night when the air is cool and dry, and not continued after sunrise. A moist cellar may be dried by exposing a quantity of well burnt lime in it.

Correspondence.

We invite brief letters for this department upon any subject of interest to the pharmacist or druggist.

The publication of communications implies no indorsement by us of their contents.

Names of correspondents will not be printed if so requested.

Address matter for this department to "Editor of the WESTERN DRUGGIST, 69 Dearborn street." To be in season for the next issue, letters should reach us not later than the 5th of the month.

AMENDING THE ILLINOIS PHARMACY LAW.

If changes are to be made in the Illinois pharmacy law during the next session of the General Assembly would it not be desirable that the powers of the Board of Pharmacy in regard to examination of applicants for registration be limited? Should it be left entirely to the judgment of the five men constituting the board whether the examination be one in name merely or such as would exclude graduates in pharmacy. I am of opinion that, while an examination by the board, as now constituted, may be satisfactory in character, a change in the personnel of the board might so change these examinations as to prove very detrimental to pharmacy.

It would, therefore, seem expedient that the powers of the board should be limited in this particular. For this reason it might be desirable to recognize college diplomas in some way, in which case the law should define the meaning of the term graduates, by requiring that graduates should be twenty-one years of age, with four years' practical experience in compounding medicines and prescriptions, and should have attended two annual courses of instruction and have a thorough knowledge of structural botany, organic and inorganic chemistry, with some practical analytical work, together with a knowledge of pharmacopœial drugs and of the officinal modes of manufacture.

This would remove the objections to graduates in medicine, since a license could not reasonably be denied a graduate of any college (pharmaceutical or medical) which has complied with these requirements. Such a law would stimulate colleges to reach at least as high a standard as that legally required. There would be fewer "diploma mills." The board of pharmacy could not dispose of diplomas at their option, but would have to determine whether the college standard of scholarship was sufficiently high.

Without some such provision the board could exclude many who should be licensed.

It has been claimed (probably without foundation) that the board examinations are more technical and severe than that of colleges in good standing. They certainly have rejected so many applicants for registration as to cause a great scarcity of registered clerks.

Another question: Should the law provide for the registration of principals only, holding the proprietor responsible for his clerks' competency under the common law? As things stand now there is no justice in dictating whom the proprietor shall and who n he shall not employ, as assistants; the pharmacist can employ such clerks only as are certified by the board to be competent, and yet if a mistake is made the proprietor is responsible for damages. In other words, the State dictates as to whom we shall employ and then makes us pay the penalty of errors by its own certified men.

I do not claim to have discovered a panacea for all the difficulties encountered, but have offered these suggestions hoping to elicit discussion which would point out most clearly the changes needed in the pharmacy law to render it satisfactory both to the public and to pharmacists.

T. N.

CHICAGO, Oct. 11, 1886.

[We should be pleased to receive the opinions of our readers upon the points raised by our correspondent. As the subjects are equally applicable to all pharmacy acts, responses should not be confined to Illinois.—ED. W. D.]

RECOGNITION OF STATE CERTIFICATES.

(Editor Western Druggist.)

The letter on "Proposed Amendments to the Illinois Pharmacy Laws" has led me to narrate an incident of interest in that connection. I am not a pharmacist, but the wife of one, and a diligent reader of the WESTERN DRUGGIST. It seems to me that a more liberal policy in regard to the recognition by pharmacy boards of each other's certificates would be of advantage both to the State and the individual. Thus a pharmacist moving from one State to another should be able to secure registration in the State to which he moved by exhibiting evidence of registration in the State from which he came. The instance to which I refer fully illustrates the disadvantages of the present system. A few weeks ago two ladies, who were unqualified, found themselves in possession of a drugstore. A pharmacist was needed, and one was found who had every qualification except registration in the State, albeit he was registered in the adjoining State. He was refused registration despite his standing in his own State unless he submitted to examination, which would occur three months subsequently. He could not afford to wait three months for an examination, nor could the ladies, who had therefore to give up a trustworthy clerk. A deserving man lost a good place, and no one was gainer. Who sinned, this man or the ladies, that the State Board meted out such a punishment?

Respectfully yours, PHARMACO.

WISCONSIN.

[Theoretically the young man was wholly wrong in presuming that the Board of Pharmacy should register him simply because he was registered in another State, where registration may mean something, little, or nothing. Perhaps he obtained a certificate (as can be done in Illinois) because he was a homœopathic "graduate," or because he was in business when the law in his State took effect. In exceptional cases, however, such as the one instanced, boards should unquestionably provide some provisional immediate examination (say, by a single member) of applicants who cannot without more or less serious inconvenience wait two, three or more months for the next "regular" meeting for an examination.—ED. W. D.]

PRESENT STATUS OF HOMŒOPATHY.

(Editor Western Druggist.)

Will you or some of your readers be so good as to give the present status of homœopathy as concerning the following particulars:

First—Is homœopathy gaining or losing the confidence of the people?

Second—Is the number of strictly scientific physicians who advocate homœopathy increasing or diminishing?

Third—Has homœopathy exerted any substantial influ

ence upon the regular practice in the way of lessening the doses of medicine, and the general method of treating diseases ?

Fourth—Has homœopathy thrown any light upon pathology, pathological anatomy or pathological histology?

Fifth—Has homœopathy made any valuable contribution to our Aomamentarium?

TANDY L. DIX, M. D.

SHELBYVILLE, IND.

[The questions raised by Dr. Dix are of much interest to pharmacists. Many of the questions can best be answered by pharmacists, since from them only are thoroughly reliable statistics obtainable. The answers here given are merely tentative, and intended to elicit information rather than to decide the questions raised.

First—There are many indications that homœopathy does not occupy the high position in popular estimation it did twenty years ago. However, only statistics which show the amount of homœopathic remedies prescribed by the laity can settle this question.

Second—In New York, where homœopathy was so powerful among the scientific practitioners that Hahnemann was elected an honorary member of the County Medical Society, the great majority of the physicians formerly practicing under the title of homœopathists have abandoned that title. The chief organ of the homœopathists there, the New York Medical Times, differs very little from an ordinary old-school journal. It has definitely abandoned the assertion that homœopathy is the only therapeutic law. Charcot's and Benedikt's works have been translated by the New York homœopathists as textbooks. In homœopathic works on nervous diseases, Worcester, for example, the ordinary neurotics are advised in ordinary doses. Scientific men of the homœopathic school, like the Helmuths, Stiles, Peters, etc., have abandoned a distinctive designation.

Third—There is very little doubt that the expectant treatment of disease, the idea of disease self-limitation, the use of small doses frequently repeated, are directly traceable to the influence of homœopathy. The teachings of Ringer, Bartholow, A. A. Smith and Piffard bear decided traces of the influence of homœopathy.

Fourth—The New York Medical Times says that homœopathy has been and is barren in its contributions to pathology.

Fifth—Glononi (or nitro-glycerin) was introduced by the homœopathists; calcium sulphide (hepar sulp.); pulsatilla and belladonna in its widest applications are among the remedies contributed by homœopathy to therapeutics.—ED. W. D.]

UNION, REORGANIZATION AND PROGRESS.

(Editor The Western Druggist.)

All the grievances that the active members of the American Pharmaceutical Association have had in the past have now been made historic (with almost unanimous consent) by the application of the true remedies. All who were present at Providence are to be heartily congratulated on having assisted in the reorganization of the central association, by placing it upon a broad and national basis. As will be seen from the report of the proceedings, the work of the American Pharmaceutical Association will be transacted through special sections. The sessions are to be increased in number and will be divided at Cincinnati, where the next meeting will take place, into scientific, educational, legislative, commercial and miscellaneous departments. Each branch will specially organize itself, and will be given sufficient time to complete its labors, after which the resolutions approved in the several sessions will be submitted for indorsement by the association as a whole.

The progressive element in both associations was richly rewarded by the adoption of nearly every advancing step that was necessary to cement the two bodies into a strong and inseparable union. Only two important recommendations made by President Roberts escaped. The most important one he made was probably overlooked on account of the great progress attained in re-organizing, but let us hope that his suggestions will be repeated by his successor, since they merit our very serious attention.

He said: "I suggest that our by-laws be further amended so as to provide that no elected member of the council be eligible to re-election within one year after the expiration of his term of office. This proposition would not affect those members of the council who hold office therein ex-officio. The proposition is made in no spirit of distrust of the council, or any member thereof, but in antagonism to that tendency to centralization of the powers of this association in the hands of a few—a tendency that is common to all associations; and it is to guard against this evil that I suggest such alterations in our by-laws be made as to hold to the majority of this association at all times an intelligent and direct control over their own affairs. I care not how well any officer or set of officers may do their duty; if they hold their position long there will be fault found with them that will weaken their efficiency and create a want of harmony in the body of the association."

This pregnant reflection will be appreciated by all lovers of justice who have experienced the unsatisfactory effects of a Governing Committee that continuously succeeds itself. On general principles self-succession in power is not in the interest of progress or reform, and, therefore, the changes advocated by President Roberts and many of our most enthusiastic and enlightened members should be made to conform with the judgment expressed, either next year or the year following.

The second recommendation was the abolition of the $5 initiation fee. A compromise was arrived at, and the initiation fee was reduced from $5 to $2. Although President Roberts and his predecessors, Messrs. Thompson and Ingalls, made the same recommendation in favor of entirely abolishing it, yet to conciliate both sides, he exclaimed: "Half a loaf is better than no loaf at all." The fact remains that Mr. Day, the Secretary of the State Board of Pharmacy of Illinois, gave notice that he would offer a resolution to change the by-laws next year, and to do away entirely with the initiation fee, leaving the annual dues as heretofore—$5; consequently, next year the initiation fee will be $2 and the annual dues of $5 will remain unchanged. If the proceedings are promptly issued in the future, and are further enriched by matter from the several special sections of the central association, it will be necessary to maintain a $5 annual fee, and it will be well worth the dues, especially when the committee on a National formulary incorporate the results of their labors in the volume. In the course of time a large surplus may be safely anticipated, and the dues can easily be placed at $3 per annum.

The meeting at Providence was a very satisfactory one, and it would be difficult to state which association was the better represented, the American Pharmaceutical Association or the National Retail Druggists' Association.

GEORGE J. SEABURY.

Mr. Charles Griffith has succeeded Mr. C. T. Fraser in the proprietorship of the old established pharmacy, 201 to 203 Main street, Johnstown, Pa.

PHYSICIANS AND PHARMACISTS.

(Editor Western Druggist.)

I can hardly see what the recognition of physicians has, as Mr. Perrine claims, to do with the status of pharmacy as a profession. I am a pharmacist of thirty years' standing and it is proposed that I shall look up to and reverence some callow diploma-buyer recently turned loose from a doctor-manufacturing joint stock concern. Should I defer my judgment of what is dangerous in a prescription to a physician who writes "pulv. opii" for pulv. Dover? or "chloral hydrate four drachms; take in two doses" for "chloral hydrate four drachms, simple syrup eight ounces; take in teaspoonful doses thrice daily," or to a physician who writes a prescription "Spirits one pint" without designating the spirits intended. I think the Ohio Pharmaceutical Association made a mistake in admitting physicians to membership. The German law which forbade physicians to dispense medicines is the only kind of law which will benefit pharmacy. U. N.

NOTES FROM THE SOUTHWEST.

(Editor the Western Druggist.)

During the past summer trading at this point has been very fair. At the beginning of the season it was thought that on account of the drouth and the almost total failure of the wheat crop, there would be a great shortage in the demand for druggists' goods. Just the reverse has been the case. Orders to a larger extent have been booked at this city than ever before. There is not a wholesaler in the town but that has had all he wanted to do. At times, to be sure, collections have been somewhat "draggy," but on the whole no complaint of a serious nature has been heard.

Another feature has been noticed by the trade here. This is the almost total absence of St. Louis drummers in the territory west of here, and as there must be competition, the onslaught is made by traveling men from northern points. Your correspondent met a gentleman from Chicago last week. He had just returned from a trip throughout the State of Kansas. It was his third trip and he declared that he had met with more success than he had dreamed of. He had sold stocks for the fitting out of seven new drugstores, and besides had taken orders which in the aggregate amounted to as much as many of the traveling men who travel in the territory which may be considered more essentially the property of Chicago. The fact is that the different lines of railroads have been forming such convenient connections with all sections of the State that competition has made rates of the very lowest, and besides perhaps the Chicago firms are more fortunate in getting rebates. A railroad will always go for the longest haul, and it is a great temptation for them to give inducements to the Northern brethren.

The retail druggists in the Southwest have had a good summer of it. Owing to the extremely and unusually hot weather the soda water fountains proved to be a "bonanza" Many a man who started in this summer with a big debt on his shoulders for costly soda water fixtures has to his satisfaction found that it has paid for itself when at the beginning of the year he thought that he would be fortunate if three years would see it his own clear of all incumbrances. At present there are in the city some of the finest fountains to be found in any city of the land. This is essentially a "soda" drinking town.

Holiday stocks of fancy goods have not been ordered so liberally as during former seasons for the reason that the same line of goods are being carried by the dry goods stores who insist upon selling the same at almost cost in order to attract trade toward other articles they handle. It has been suggested by the trade that a sort of "boycott" be made against these stores, but nobody as yet seems terrified over the proposition. Perhaps some of the readers of the WESTERN DRUGGIST can suggest some effective means for checking these incursions. Such may be assured that if the problem is satisfactorily solved they will have the thanks of the trade all through these parts.

There have been several letters received from the East written by parties who desire to know if there is a good opening here for a live, energetic drug house. To tell the truth there are too many here now. One will in three cases out of eight do better to go farther West into some of the smaller towns, where competition is not so brisk and where expenses are minimum.

After a two years' trial it is conceded by the bulk of the trade in Kansas that prohibition has done more to bring the business of the druggist into disrepute than to elevate it. There will be a strong fight made against it at the next election. It is thought that it will be ineffectual, however, as the prohibition element is vastly in the majority. The disreputable classes of retailers will continue to sell whiskey right and left as they have done in the past and every now and then the papers will be replete with articles telling of the arrest and conviction of the parties. These go to jail, but for every man who goes behind the bars there are dozens who can go on in the even tenor of their ways disposing of intoxicants after the most approved saloon style. B.

KANSAS CITY, Oct. 5 1886.

SALOL, chemically salicylate of phenyl, which has recently made its appearance, has been examined by Dr. C. Kolbe, who gives the following method for its preparation: Molecular weights of sodium salicylate and carbonate are heated with chloride of phosphorus at an elevated temperature, resulting in the formation of sodium chloride, phosphoric oxide and salol. according to the following equation: $5NaC_7H_5O_3+5NaOC_6H_5+2PCl_5=10NaCl+P_2O_5+5(C_6H_5)C_7H_5O_3$.

The mass is treated with water to separate the sodium chloride and phosphoric oxide, and the remaining salol is purified by repeated crystallization from alcohol until colorless and tasteless, neutral in reaction, entirely soluble in alcohol, and insoluble in water.

ALBUMEN PAPER for the preservation of butter is recommended (Ind. Blatt) to be made as follows: The white of an egg is beaten to a foam, to which is added one gram of salt and one-half gram of saltpetre. Thoroughly dried paper is then saturated with the mixture and again dried and ironed out to free it from moisture. The butter, to be preserved, should be well kneaded in a double layer of linen, and inclosed in the prepared paper.

PEPTOSIN.—R. J. W. (Philadelphia, Pa.): This is a concentrated liquid preparation of pepsin for the production of the various elixirs, syrups, wines, etc. The employment of a solution of pepsin in some neutral solvent, such as glycerin, has time and again been advocated in these columns, especially for the production of combinations with bismuth, etc. Should this preparation be perfectly neutral, and at the same time stable and retain its digestive power for a reasonable length of time, it will prove a great convenience for extemporaneous dispensing.

NOTES FROM GERMANY.

BY OSCAR LOEW, PH. D., MUNICH.

The Berlin public disinfection institution does good service. The principal disinfectant used (for dresses, etc.) is superheated steam.

A vermicide mixture called knodalin, recently analyzed in Berlin, was found to consist of Nitrobenzol, Potassium xanthogenate, soap with about 60 per cent. water and amylic alcohol.

The BerlinPharmaceutische Studenten Verein held its anniversary festival last week. The society distributed its annual report on this occasion and petitioned the minister to create a special institute of pharmacy.

A serious result from a "pain expeller" is reported from Königsberg. A woman, upon the recommendation of a quack, used that "medicine" for about a week, and such a serious illness resulted that she had to rest forty-five days in an hospital.

The seeds of Wrightia antidysenterica, which have been recently imported from the Mauritius, as a remedy in dysentery, had been used in Europe some thirty years ago, but fell into disuse because of the great admixtures of similar but valueless seeds.

The pharmaceutical department of the University of Tokio (Japan) has been established on a high grade and the Japanese apothecary will at no distant day equal in scientific education the apothecaries of any other country. Several Japanese are now studying pharmacy and medicine at the Munich University.

A plant growing in Java and upon the Phillipine Islands, recently recommended in gout and kidney diseases—Orthosiphon stamineus—(the "Remuk djong" of the natives) was analyzed by Van Itallie, who discovered a crystallizable glycoside of a bitter taste in it, which he called orthosyphonin. No alkaloid has been found in the plant.

Among new books of interest are. "Jahresbericht über die Fortschritte in der Lehre von den pathogenen Microorganismen umfassend Bacterien, Pilze und Protozoen," by P. Baumgarten, Professor in Koenigsberg. The development of the new study, bacteriology, has been so rapid that it was found necessary to publish separate annual reports upon this science, interesting alike the physician and apothecary.

"Die Natur des Milzbrandgiftes," by Dr. Hoffa: Wiesbaden. The author studied the nature of the poison produced by the anthrax bacillus; it has an alkaloidal character.

The number of students at the German Universities increased from 21,000 in 1880, to 28,020 in 1886. This considerable unhealthy increase is principally in the departments of medicine and theology. There are twenty universities in Germany, the smallest of which is Rostok with 313 students, the largest, Berlin, with 4,434 students in 1886. After Berlin follow Munich and Leipzig, both with about 3,000 students.

Several weeks ago Prof. H. v. Liebig, son of the great chemist, on passing the "Dining Hall of Vegetarians" in one of our principal streets, noticed in the window an inscription condemning the use of meat and denouncing the invention of Liebig's meat extract by Liebig as a base swindle. Prof. Liebig entered and had a violent dispute with the proprietor. He will bring the matter before the courts, where the question of the value of the meat extract will be fully discussed. It is well known that the meat extract of Liebig has no nutritive qualities, since the albumen and fat are carefully removed, and the amount of peptone in it is exceedingly small. That Liebig's meat extract plays mainly the role of a spice no thinking physiologist disputes.

Five cases of poisoning by "edible" fungi, within two days, have occured in Munich and its suburbs. It appears that fungi, usually not poisonous, can acquire poisonous qualities under certain circumstances, such as prolonged rainy weather.

The German drug trade with Japan increases annually and has made great inroads on the English druggists, who formerly controlled the Japanese market. The principal exports to Japan from Germany are: Boric, salicylic and tannic acids, chloral hydrate, chloroform, glycerin, cream of tartar, quinine and cocaine salts. The English exports to Japan are mainly caustic soda, potash chlorate, lime chloride, amorphous phosphorus and soda bicarbonate.

The following test of olive oil adulteration by cottonseed oil, is recommended by Jansen. Dissolve one gram of silver nitrate in 200 c. c. of ethylic alcohol and add 40 c. c. of ether and filter (a). Further mix amylic alcohol with 15 per cent. rapeseed oil (b); now add to the olive oil to be tested 1 c. c. of the silver solution (a) and 12 c. c. of the mixture (b) and heat the mixture one-half hour in a water bath. If a dark coloration results it is due to the presence of cottonseed oil. (Compare with pure olive oil.)

The "Fer Bravais," a French secret medicine recently analyzed in Karlsruhe, proved to be a four per cent. solution of dialyzed iron oxide, worth three cents and sold for one dollar. Another secret medicine consisted of a solution of a trace of a bitter extract in diluted rum; this was an infallible medicine for consumption (!) The Berlin police, by publishing the analysis of secret medicines in the principal papers, have done good service. The system is to be adopted in other German states.

A new sugar reaction, by which mere traces can be better discovered than by any other method, has been described by Molisch. It consists in adding a 20 per cent. solution of A naphthol to the liquid to be tested, and shaking with an equal volume of concentrated sulphuric acid. A purple or red coloration denotes sugar. All sugars give reaction, as well as carbohydrates that are easily converted into sugar by sulphuric acid (starch, cellulose.) This reaction may, therefore, be used for distinguishing animal and vegetable fibers.

An adulteration of saffron by baryta sulphate has been lately reported by a Nuremberg chemist. The mixture had quite a normal appearance, but yielded, upon incineration, 14 per cent. baryta sulphate, which must have been in the saffron in exceedingly fine distribution. Probably the saffron was first soaked in barium chloride and afterward in soda sulphate and washed. Thus baryta sulphate was produced as a fine precipitate in the interior of the fibers. The same chemist concludes, after numerous analyses of commercial pepper, that good pepper never contains more than 6.5 per cent. of mineral constituents.

The pharmaceutical exhibition connected with the meeting in Düsseldorf, attracted much attention. Among the articles on exhibition were the vaselin preparations of the Chesebrough Manufacturing Company, of New York; the chlorophyll preparations of Schütz, of Vienna, much in use for the coloration of food products; the preparations of Seabury and Johnson, of New York; of Tromsdorf, of Erfurth, and Schering, of Berlin. There were also on exhibition the so-called vegetable silk of Cameroon (Africa), a species of cotton with a silky luster; also beeswax from Cameroon and various barks and resins from Brazil. The following drugs from Borneo were exhibited: Canawara bark, canata bark and ahala bark.

Botany and Microscopy.

BOTANY AT THE BUFFALO MEETING OF THE AMERICAN ASSOCIATION.

The botanists appear to have had an unusually successful meeting, and a very enjoyable time. A considerable number of papers relating to botany were read, among them one by Prof. Gray on the Revision of the North American Violets, one by Professors Coulter and Rose on the Classification of North American Pines on the Basis of their Leaf Anatomy, one by Miss Lillie J. Martin detailing the Plans of a Laboratory for Work in Chemical Botany, one by Prof W. G. Farlow on the Gymnosporangia of the United States, one by Prof. W. J. Beal, comparing the Hygroscopic Cells of Grasses with those of Sedges, and one by Prof. C R. Barnes on the North American Species of the Genus Fissidens.

Papers of more or less interest to botanists were also read by Prof. J. S. Newberry, "On the Cretaceous Flora of North America;" by Prof. E. W. Claypole, "On some Carboniferous Wood from Ohio;" by B. E. Fernow, on "The Biology of Timber Trees, with Special Reference to the Requirements of Forestry:" by E. L. Sturtevant, on "Atavism the Result of Cross-breeding Lettuce;" by Miss Lillie J. Martin, a paper entitled "Preliminary Analysis of the Leaves of Juglans Nigra;" by Miss Helen C. De S. Abbott, a paper on 'Certain Chemical Constituents of Plants Considered in Relation to their Morphology and Evolution," and also an account of the preliminary analysis by her of the Honduras plant named "Chichipate;" by Prof V. C. Vaughn, on "The Occurrence of Tyrotoxicon in Milk;" by Messrs. D. E. Salmon and Theobald Smith, on "The Bacterium of Swine Plague," and one by D. E. Salmon on "The Theory of Immunity from Contagious Diseases."

Among the papers mentioned as possessing special interest were those by Prof. Coulter, Miss Martin, Miss Abbott and Prof. Farlow.

The character of the papers read is significant of the important changes taken in the direction of botanical studies in the last few years. The study of the lower vegetable organisms is receiving a much larger share of the attention of botanists, and much more time is also devoted to vegetable histology, vegetable physiology and the chemical constitution of plants. Another fact also is noticeable, namely, the economic value which many of the researches possess.

The impression has long been abroad that botanists are unpractical, that the world in which they live has no very direct relations with the world in which bread and butter are to be won or lost, but a study of the papers read at this meeting will convince the most skeptical that if such an impression ever has been well grounded it is certainly not so now. It is evident also from the character of the work and from the discussions that took place at their meeting that the botanists of the United States are a well organized, congenial band of workers.

CLEANING MIXTURE FOR GLASS SLIPS AND COVERS.

The following is recommended by good authority as one of the best for the purpose. It readily removes balsam and other resinous substances, oily matters, etc., and the glass is not at all injured by a prolonged immersion in it. It consists of water (ordinary clean lake or well-water will answer), one pint, bi-chromate of potash 750 grains, strong sulphuric acid two ounces. The sulphuric acid is first poured in a thin stream and with constant stirring into the water, and the bichromate is afterward dissolved in the mixture. The glasses to be cleaned should be placed in a shallow glass or porcelain tray in such a way that they will not adhere to each other and thus prevent the entire surface from coming into contact with the liquid, and the latter is then poured over them. After several hours' immersion in the solution they are removed, rinsed in distilled water, wiped dry with a clean linen cloth, wrapped up in packages or placed in small paper boxes to exclude the dust (care being observed not to touch the surface of the cleaned glass with the fingers) from the packages.

THE CAUSE OF POTATO ROT.

The potato fungus, peronospora infestans, has commonly been regarded as the cause of potato rot. But some good observers among the practical gardeners take issue with the men of science on this point and claim that it should be regarded rather as a saprophyte than as a parasite. Decay, they claim, has begun its deadly work before peronospora makes its appearance, and the work of the latter is that of one of nature's scavengers, to clear away the already dead matter.

This view is taken by a correspondent of The Gardener's Monthly, and the reasons he gives for it are in themselves plausible enough, though by no means conclusive. If the view be a correct one it should be capable of positive proof. It is of course possible that an invariable accompaniment of potato rot has been mistaken for its cause. If this be the case, the real cause should be sought for in bacteria. Decay does not come about of itself, as the author of the article in question seems to suppose, and if peronospora is not the cause of the decay of the potato, but only one of the accompaniments of that decay, the real cause remains to be sought for in some organism, and as the bacteria have more mischief of this sort laid to their charge than any other organisms, it would be but natural to look in this direction. The author in question affects to despise the results achieved by the microscope, but it is difficult to see how he can ever either prove or disprove his own position unless he resorts to the use of it. The "practical" gardener might perhaps become even more practical if he had respect for the methods of science; certainly he would be less inclined to rest on theory than on the results of observation and experiment.

THE VACUOLES OF VEGETABLE CELLS.

Dr. H. De Vries has been making a study of the vacuoles of vegetable cells and the results which he has achieved are of considerable interest. He has proved that a vacuole is not merely a sap cavity hollowed out in the protoplasm, but that it has a distinct inclosing membrane different from the rest of the protoplasm; for this membrane he proposes the name *tonoplast*.

His mode of distinguishing it was by the use of a 10 per cent. solution of potassium nitrite, which almost immediately kills the rest of the protoplasm but does not kill the inclosing membrane of the vacuole until after the lapse of some time. The dead protoplasm may then readily be stained by means of eosin or other suitable dyes, while the living tonoplast remains unstained and may therefore read

ily be distinguished. He further finds that the tonoplast agrees in essential structure with what has been termed the primordial utricle of the cell, or the inner cell membrane. Like it the protoplasm composing it is firmer and less permeable than the rest, and they resemble each other also in the fact that they excrete certain definite substances as cellulose, vegetable acids, etc.

Dr. De Vries also ascribes the phenomenon which Darwin called the "aggregation of the protoplasm" to the contraction and division of the vacuoles.

THE STARCH-FORMING POWERS OF PLANTS.

Herr A. Meyer has been investigating the starch-forming powers of plants, and he finds that plants are able to manufacture starch not only out of glucose and cane-sugar, but also from mannite and glycerin. The author concludes from his experiments that starch is not, as has been supposed, the first product of assimilation by the plant, but that it is the last member of a long series of compounds produced in the assimilating cells, out of carbon dioxide, water, and perhaps other inorganic matters.

That plants are capable of making starch out of glycerin and various sugars is also confirmed by the investigations of M. E. Laurent.

Mr. W. W. Calkins of Chicago, who makes a specialty of the study of fungi, is authority for the statement that Polyporus officinalis, Fries, commonly called the white agaric, sometimes occurs on the white pine in Michigan. This fungus has been used in medicine since the days of Dioscorides.

It is much more common in Europe than in this country. There it grows on old trunks of the different species of larch. By the ancients it was used in small doses for its astringent properties and in larger ones for purgative purposes. But it has much more value as a means of checking the excessive sweating of consumptives and others suffering from wasting diseases when administered in moderate doses. It has even been used, it is claimed, with success as a substitute for quinine for tonic and febrifuge purposes.

We learn from the August number of The Microscope that Dr. and Mrs. Stowell have retired from the management of that journal, owing to the impaired health of Mrs. Stowell. The journal now passes into the hand of Doctors W. P. Manton, Geo. Duffield, Frank W. Brown, and Chas. G. Jennings.

The September number of the American Monthly Microscopical Journal also announces an editorial change. Prof. Hitchcock, the founder of the journal goes to Japan, and the editorial management is left, temporarily at least, in the hands of Mr. Henry Leslie Osborn.

It will strike the public as a rather singular coincidence that the editors of the two rival journals should retire about the same time, and considering the attitude of the two journals toward each other, the query very naturally arises, has the same fate befallen them that befell the Kilkenny cats? The dignity with which the editorial war was conducted is certainly comparable with that waged between the two celebrated felines.

An editorial in The Microscope entitled "At Last" is a diatribe on the retiring editor of the rival journal which for rancor it would be difficult to match in border journalism. It is to be hoped that the public will hereafter, so far at least as these journals are concerned, be spared such exhibitions of ill-temper and ill-breeding, and that under the new management both publications will be conducted with the dignity that becomes scientific journalism. We trust also that The Microscope, under its new administration, will so far conform to the courtesies of editorial life as to refrain from borrowing without acknowledgment from other journals.

Some idea of the labor performed by bees in obtaining honey from flowers may be obtained by reviewing the results of Dr. A. v. Planta's investigations. The flowers of the Alpine rose, acacia and sanifoin are all favorites of the bees and yet he finds that to obtain one gram of sugar, corresponding to one and three-tenths grams of honey, from the first species these insects must exhaust the nectar of 2,129 flowers; to obtain the same amount from the second species 2,000 flowers must be visited, and to get an equal quantity from the last species they must despoil not less than 5,000 flowers. Verily, the industry of the bee has not been overrated.

Prof. J. H. Pillsbury describes a simple method of preparing lantern slides which many teachers will find serviceable in their work. Thin, transparent sheets of gelatin, which may be obtained at almost any lithographing establishment, are procured, laid over the diagrams or drawings to be exhibited, and by means of a fine steel point the lines are traced in the gelatin. The sheets are now each bound between two plates of glass of the ordinary lantern size, and the slides are completed. When projected on the screen, the lines scratched in the gelatin appear dark and distinct on a brightly illuminated ground.

The June number of Drugs and Medicines of North America begins the second volume of that valuable publication. The number deals in its usual thorough manner with the medicinal members of the magnolia family.

In reply to the time-worn query as to the legal ownership of prescriptions, the most recent ruling is that of the New York and Massachusetts courts, which is essentially as follows: "A patient applies to a physician and receives from him certain advice, for which he tenders a fee. The physician hands a piece of paper to the patient purporting to be a written order for certain goods called drugs, which order is filled by a merchant or apothecary. The payment of the fee and the delivery of the goods or drugs terminates the verbal contract, and the druggist keeps the prescription as evidence that the contract has been fulfilled so far as he is concerned. The druggist can, if he please, renew the drugs on his own responsibility, for he is but a merchant and has a perfect right to sell drugs to any one and in any shape. He need not keep the prescription, nor is he bound to give a copy, but, should error occur, he has no protection in case of suit." This decision has a common law basis only, and would be modified by statutory provisions. The decision makes it obligatory on the druggist not to repeat a prescription when specifically so directed, since the directions of the physician constitute part of the contract.

The Deutsche Apotheker Verein held its annual meeting in Düsseldorf, in August. (The meetings of the State organizations take place in April and May.) It was moved that the passage of a law be secured, forbidding apothecaries to sell medicines below standard prices, but the motion was rejected by the majority. A motion that action be taken to secure a law forbidding the importation of patent and secret medicines was carried by a large majority.

Societies and Colleges.

NATIONAL WHOLESALE DRUG ASSOCIATION.

No more cordial or generous welcome could have been extended even so representative an organization as the National Wholesale Drug Association than that given by Minneapolis on the occasion of the twelfth annual convention of the Association in that city Sept 27, 28 and 29. For a time previous to the meeting some people, unacquainted with the courtesies characterizing the rivalry of Western cities, appeared to fear that the merchants of Minneapolis and St. Paul would be divided into hostile camps as to the division of the honors of the occasion, but with a spirit as generous as nature herself to the great Northwestern cities, concessions were fraternally and mutually granted, Minneapolis having the sessions in the palatial hotel West, and being afforded due opportunity for the expression of her overflowing hospitality, and St. Paul the closing day, when the guests were provided with carriages which conveyed them to the bluffs overlooking the city, whence its metropolitan attractions and dignity could be seen to advantage. St. Paul also contributed the crowning glory of such occasions in the way of a sumptuous banquet, where the dignitaries of the State and the oratorical representatives of the various interests composing the Association gave vent to eloquent sentiments.

The marvelous growth of the great Northwest can hardly be understood or appreciated without a visit to the great typical cities, whose stalwart mercantile proportions, dashing enterprise, and air of eternal solidity, attest the boundless resources and wealth of their tributary territory. Their trade statistics, from year to year, seem more like the dream of an enthusiast than the incontestable facts of a visible reality.

The sessions of the Association were attended by probably over 300 members, hailing from all sections of the country, New York, Philadelphia and Boston being largely represented by many of their staunchest manufacturers and merchants, including Messrs. McKesson, Stallman, Seabury, Raber, Olcott, Fairchild, Peters, Kline, A. H. Jones (of P. & W.), Wm. R. Warner, E. H. Hance, Carter and Cutler; Pittsburgh by the dauntless Kelly; Cleveland by the genial and fluent Myers and S. M. Strong; Cincinnati by Mr. Burdsall; Detroit by Messrs. George S. and James E. Davis and Mr. Hinchman; Chicago by the ever-eloquent Van Schaack and by Messrs. Lange, Lord, Cutler, Rosenthal, Baker and Murray; Indianapolis by Messrs. Kiefer, Stewart and Lilly; Omaha by Mr. C. F. Goodman; Kansas City by Mr. Faxon; St. Louis by the "heavyweights," C. F. G. Meyer and J. C. Richardson; Louisville by Messrs. Robinson and Peters; Grand Rapids by C. S. Hazeltine; Milwaukee by Messrs. Drake and Hopkins; St. Paul by D. R. Noyes; Minneapolis by J. C. Eliel. Representatives of nearly all firms of note in the wholesale drug and related trades were present.

The utmost good feeling prevailed throughout the sessions, the only approach to an exception being during the discussion upon the alleged violation by Messrs. Lord, Owen & Co., of Chicago, of the rebate plan.

The convention to order, Mr. J. C. Eliel, in a characteristic speech of welcome, abounding in cordial words and poetic allusions to the "home of Hiawatha," extended the hospitalities of Minneapolis. He was followed by Mr. D. R. Noyes on behalf of St. Paul, whose well known conservatism on a familiar subject prompted a reference, in enumerating the courtesies his city desired to proffer, to the fact that the banquet would not "be likely to confuse your memory of dates the next morning." The speeches met with a cordial response by President Kline.

Mr. Van Schaack, the efficient chairman of the Committee on Membership, presented the report of that committee, recommending the admission of a number of applicants.

Delegates from other associations were then received.

Messrs. Webster and Dr. R. O. Sweeney, of St. Paul, responded on behalf of the Minnesota State Pharmaceutical Association, the latter evoking applause by a characteristic reference to the convention as the "Grand Medicine Lodge of America."

Mr. Van Schaack responded on behalf of the National Association

The President's Address, by Mr. Kline, of Philadelphia, dealt exhaustively and ably with the more important questions before the trade. It was fitting, he said, that the Association, since its nationalization, had met successively in "metropolitan" New York; then in St. Louis, the home of a number of faithful sponsors of the infant society; then in the "City of Brotherly Love," whence followed harmony and good will, and now in the cities which, though young in years, are already giant leaders in business enterprise.

The address, in referring to the more than average volume of the year's business, noted that the days of large profits had passed, which suggested that "business should be organized on some other principle than that of price-cutting," and that expensive methods of business should not be fostered. Delegates of the Association had been appointed from about twenty State and two National Pharmaceutical Associations, and had in every instance been cordially received, and the work of the Wholesale Association, in securing the repeal or reduction of internal taxes, given hearty co-operation. The speaker then paid the committees having charge of the interests of the rebate plan a high compliment for its efficiency; recommended that the chairman be paid a salary; referred to a disposition in some quarters to circumvent, by various means, the plain objects of the plan, and counseled greater heed to its provisions; called attention to the increase of articles in the rebate system, the owners of which are indifferent to their obligations, and noted the need of due discrimination; recommended that the annual dues be placed at a fixed sum; advocated measures for reducing the number and expense of commercial travelers; complimented the work of the Committee on Drug Adulterations, and referred, as a worthy precedent, to the offer of $100 by the Confectioners' Association for evidence which would secure the conviction of persons adulterating confectionery with poisonous or injurious substances; called attention to the popularity and advantages of mutual insurance, and closed by embodying the views of the address in the form of specific recommendations.

The report of Secretary Merriam, which followed, recorded the death of a number of members during the year; referred to the great prosperity of the Association, as shown by the present membership of 335, and recited the advantages derived from the rebate plan.

The following committees were then appointed:

On President's Address.—James S. Burdsal, Cincinnati; S. M. Strong, Cleveland; G. A. Kelly, Pittsburg; J. C. Eliel, Minneapolis; Charles Hubbard, Syracuse.

On Obituary Notices.—A. H. Jones, John McKesson, Jr., G. M. Olcott.

Editing Stenographic Report.—John M. Peters, A. H. Jones and presiding officer.

On Nominations.—J. C. Eliel, T. H. Hinchman, G. A. Kelly, John McKesson, Jr., A. H. Jones.

To Examine Reports in Aid of Board of Control.—John McKesson, Jr, G. K. Hopkins, T. H. Hinchman, George A. Kelly, F. A. Faxon.

The very able report of the Committee on Legislation, by Mr. A. H. Jones, was read and referred.

The Committee on Transportation submitted resolutions to the effect that Congress should control the corporations chartered by the Government; should establish a National Board of Railroad Commissioners and pass an Inter-State Commerce Act; that canals should be built as a means of competition with railroads; that "pooling" and combinations should be prohibited by law; that discrimination in freight or passenger rates should cease, and that drug freight rates should be reduced.

Mr. Cutler read the report of the Committee on Paint Trade. All but one member of the committee, Mr. John B. Swift, of the Eckstein White Lead Company, Cincinnati, indorsed the report as a whole. Mr. Swift could not at that time indorse the portion referring to rebate increase, since years of experience had shown that many wholesale drug and paint dealers would not take as profit even the present rebate. Unless in the future a closer adherence to the rebate plan now in force was observed, his company would advocate a flat price in any quantity.

Mr. Eger, of the Paris Green Association, wrote that the members of his body had maintained terms. Before making complaints of cut prices the purity of outside "green" should be determined.

Mr. Henry offered the following resolution, which was referred to the Business Committee:

"Resolved, That the National Wholesale Druggists' Association form a reciprocity treaty with Canada, providing it is truly reciprocal in its nature."

Mr. E. H. Hance then read the able report of the Committee on Adulterations, which recommended highly the remedies proposed by Mr. Belral, of Belgium, viz.: The establishment of official laboratories, and punishment with extreme severity for even exposure for sale of adulterated articles (the vendor being held responsible for the same), as well as the establishment of an international standard. The report was referred to the Board of Control.

The report of the Committee on Fraternal Relations was then read by Mr. Burdsal. The committee congratulated the Association on the general good feeling between retailers and wholesalers. Though by united action many burdens had been removed, there still remained the unjust, onerous liquor license and spirit tax—

The wholesalers paid for licenses.....	$ 30,000
The retailers paid.....	750,000
	$780,000

Or, in other words, the license tax on the trade during the past twenty-four years amounted to $18,720,000. All the expenses of the Government were reduced, and there was no excuse for this burden on the trade.

Mr. Kelly then read the report of the Proprietary Goods Committee. The contract plan was growing in favor. Forty-five proprietors and 202 items had been added to the list, while twenty-three proprietors and eighty-one items had withdrawn. A new book containing a complete list of contract goods had been prepared by Mr. Myers.

At the evening session the Committee on the Mutual Fire Insurance called attention to the desirability of relieving the trade from the excessive rates imposed by underwriters who classed drugstores as extra hazardous risks.

The Committee on Nominations reported as follows:

President, D. R. Noyes, St. Paul; first-vice president, J. C. Eliel, Minneapolis; second, Solomon Carter, Boston; third, M. C. Peter, Louisville; fourth, L. A. Lange, Chicago; fifth, Charles F. Goodman, Omaha; treasurer, S. M. Strong, Cleveland; secretary, A. B. Merriam, Minneapolis; board of control, G. M. Olcott, N. Y.; G. R. Hopkins, St. Louis; P. Van Schaack, Chicago; Robert Shoemaker, Philadelphia; James E. Davis, Detroit, Mich.

The report was accepted.

President Kline introduced President-elect Noyes in a brief courteous speech, and thanked the Association for the courtesy with which he had been treated. Mr. Noyes complimented his successor on the efficient manner in which he had performed his duties; alluded briefly to the great work before the Association, and welcomed the members on behalf of St. Paul. Mr. Eliel being called for responded as Vice-President in a fitting strain, and heartily welcomed the convention. The Association then adjourned.

MORNING SESSION.—On re-assembling the president appointed Messrs. Solomon Carter, E. Waldo Carter, J. P. Langdon, Horace Burroughs and T. A. Faxon to arrange for the next place of meeting.

Mr. Kline stated that as complaints had been made to the Committee on Proprietary Goods that the spirit of the resolution passed at the Philadelphia meeting, with reference to the delivery of contract goods to points differing from location of the firm ordering the same, unless such firm has a bona fide branch house at point indicated, had been violated by a prominent firm in delivering said contract goods through a firm engaged in the retail business at Denver, Colorado. He offered the following:

Whereas, This evasion resulted in injury to jobbers competing for this territory, who are conscientiously adhering to their contracts.

Resolved, That the association strongly condemns such unfair methods as an evasion of the contract and an injury to competing jobbers who are conscientiously adhering to their contracts.

Resolved, That the Committee on Proprietary Goods be requested to advise proprietors selling their goods under rebate restrictions of any cases of this character properly brought to their notice, and to urge them to refuse such shipments to retail houses, unless careful investigation shows that such purchases are not made for the purpose of evading the contracts.

Mr. Fox moved that they be adopted. Mr. Lord asked who were the firm referred to. Mr. Kline responded that it was the firm of Lord, Owen & Co.

Mr. Lord moved that the whole question be referred back to the Committee on Proprietary Goods, as the matter was one which required discussion and was not fully understood. In this one of the by-laws sustained him. As one of the firm designated he would like to meet his accuser face to face before the Board of Control. After considerable discussion the original motion was carried after having been so construed as to be general rather than specific, the prevalent opinion being that it announced a principle worthy of acceptance, even though the same should not be applicable to a particular case.

Mr. Thomas Lord responded to the greeting from the American Pharmaceutical Association brought by Messrs. Simmons and Boise.

The meeting then adjourned.

On re-assembling in the afternoon Mr. W. H. Raser, of New York, chairman of the Committee on Drug Market, read a very exhaustive report of the market for the past year, giving the supplies that could be at present and for the ensuing year drawn from, and also an estimate of the quality of the supplies.

C. F. Meyer, of St. Louis, read the report of the Committee on Credits and Collections, which the Board of Control immediately passed and presented to the convention. It

dealt chiefly with the question of the establishment of a universal rate of discount. The Northwest members objected on the ground of the scarcity of money, while the Eastern members favored it. The chairman of the committee offered a resolution establishing a universal rate of discount of 1 per cent. on sixty day sales if paid in ten days, or 1 per cent. off on thirty day sales if paid in five days. D. R. Noyes, of St. Paul, and J. C. Eliel, of Minneapolis, urged the necessity of at least a 1½ per cent. discount.

G. R. Lyman said that there was a question about the 1½ per cent, but would it be possible in Chicago, Milwaukee, St. Louis or Kansas City, and would they join in the same rate. A compromise was finally reached and the Association agreed on 1 per cent. off on goods sold on sixty days' time if paid in thirty days, or 1 per cent. off on goods sold on thirty days' time, if paid in ten days.

The Board of Control presented the report of the Committee on Fraternal Relations and suggested that the Committee on Legislation correspond with the American Pharmaceutical Association, the Retail Druggists' Association, and the Association of Manufacturers and Dealers of Proprietary Articles, requesting that they appoint a similar committee to co-operate in obtaining a repeal of the license tax and national revenue tax.

The report of the Committee on Transportation was accepted with the suggestion that it go to the new Committee on Legislation. The general complaint was that no changes in the classification by railroads had been made. The committee had expended its energies in securing low rates for members of the Association in going to and from aanual meetings. It was claimed that druggists paid higher freights than any other class of trade.

Mr. Van Schaack offered a resolution which was passed, and which empowered the Committee on Transportation to take necessary steps to secure needed reform in freight classification of drugs where there are at present gross indiscriminations.

T. H. Hinchman, Detroit, chairman of the Committee on Fire Insurance, reported that there had been no change in the last year. Board companies had retained their rates, except in the Missouri valley, where certain excesses had been removed. The losses paid by the companies had not been more than 20 per cent. of the premiums they had received. In this country are 500 wholesale drug houses, and 200 others who claim the wholesale business. They pay premiums amounting to $7,000,000 per year. Board companies have done the greater part of the business, but there was a greater desire for non-board companies. The average rate of wholesale drug house insurance is 2 per cent., double the rates justified by the losses. The committee could see no other remedy than that of internal or mutual insurance. It recommended that a committee of five be appointed to organize a mutual insurance company for wholesale druggists, in each of the States of Massachusetts and Pennsylvania.

The report of the Committee on Commercial Travelers was transferred to the Board of Control with recommendations that steps be taken toward the removal of the tax which commercial travelers are required to pay. The resolution was to the effect that inasmuch as the United States Supreme Court has declared unconstitutional the laws of the several States and Territories under which they impose a discriminating tax on commercial travelers; and as the several States and Territories continue to exact the said license, that it was the opinion of the Association that it was the duty of Congress to pass a law that shall preserve the rights contemplated in the constitution.

The report on paints and oils and the report on adulteration were presented without any accompanying resolution and accepted. The same action was taken with the report on legislation. In the Paris green trade the rebate system had never been successfully adopted, and C. F. G. Meyer, M. N. Kline and Daniel Myers were appointed a committee to confer with the Paris green manufacturers, with a view of making some settlement.

Resolutions were passed as follows: That when any firm has been found guilty by the proprietary committee of evading or violating the contract plan, proprietors should withhold supplies until said firm be reinstated by the proprietary committee. That all members having any over stock, furnish a list of over stock to the secretary and he, without giving any names, will take action to dispose of the over stock. That the new Committee on Collections notify all members, active and associate, of the changes in discount that had been made.

At the evening session the resolution presented by Mr. C. F. G. Meyer that as the wholesale drug trade had grown out of proportion to the expenses entailed in carrying it on, which expenses are due to the great number of commercial salesmen, each firm should after January reduce the number of its traveling salesmen 25 per cent. After being made recommendatory instead of mandatory the resolution was referred to the Committee on Commercial Travelers to ascertain what could be done in the direction suggested.

The Committee on the President's Address reported favorably six of the suggestions embodied in the address, and unfavorably the seventh suggestion regarding the appointment of an Entertainment Committee. The report of the committee was accepted.

The Committee on the Next Place of Meeting announced, by Simon Carter, its chairman, Boston, Mass., as the next place of meeting, on the third Tuesday in August. Mr. E. Waldo Cutler, of Boston, read an earnest letter of invitation to the members and their families. Mr. Peter Van Schaack responded for the association.

In relation to the report of the Fire Insurance Committee, the Board of Control offered a resolution that provided for the immediate appointment of a committee of five who should procure a charter and organize a mutual insurance company in which wholesale druggists of the United States should be insured. The resolution further provided for a board of directors, and named limitations, etc., of the company. W. B. Slosson spoke on the resolution, and said that a mutual insurance company would reduce the expenses of insurance to the druggists one-half. The resolution caused a very general discussion by the members, and was finally adopted.

S. M. Strong offered a resolution providing for the appointment of a committee of three, representing the East, West and Northwest, to confer with manufacturers with a view of placing castor oil on the contract plan. The committee was E. Waldo Cutler, Boston; E. J. Richardson, St. Louis, and H. G. Squires, St. Paul.

A committee consisting of Daniel Myers was appointed to confer with the president of the Hop Bitters Company with a view of settling the suits begun by the company against wholesale dealers who, it is alleged, sold an imitation article.

C. F. G. Meyer, of St. Louis, in a paper on the employment of female help, maintained that the proper place for girls was in the house. There are men enough in the world, and they would not allow the women to starve.

Resolutions were offered by Mr. Kline calling attention to the existence of counterfeit proprietary goods, and declaring it to be the duty of members when offered proprie-

tary articles below regular prices from unusual sources, or by parties not known to be responsible, to promptly inform the manufacturer of the fact, thus enabling him to investigate the matter. Adopted.

After the usual votes of thanks the Association adjourned.

The banquet at the hotel Ryan was an eminently enjoyable affair. The following toasts and responses were offered: "Minnesota," Gov. Hubbard; "St. Paul," Mayor E. Rice; "Minneapolis," Mayor Ames; "N. W. D. A.," Ex-President Kline; "Retail Drug Trade," Messrs. Jones, of the Minnesota Pharmaceutical Association, and Webster, of Minnesota Pharmacy Board; "Commercial Travelers," J. H. Richardson; "The Medical Profession," Dr. T. Jones; "The Legal Fraternity," Hon. E. C. Flandrau; "The Clergy," R. Christie, D. D.; "The East," Mr. G. M. Olcott; "The West," Mr. J. C. Eliel; "The South," Mr. Rankin; "The Associate Members," Mr. J. S. Page; "Early History," Mr. P. Van Schaack.

THE BRITISH PHARMACEUTICAL CONFERENCE was called to order in Mason's College, Birmingham, at 10 A. M. Aug. 30, 1866. About 150 members were present. Mr. Thos. Barclay welcomed the conference on behalf of the pharmacists and chemists of Birmingham, and his welcome was seconded in remarks by Professor Tilden. President Thomas Greenish responded on behalf of the conference, thanking the local pharmacists and chemists for their cordial welcome.

Mr. Plowman read the list of accredited delegates and called attention to the presence of Indian and Australasian delegates who were cordially welcomed by President Greenish. Mr. D. S. Kemp of Bombay responded on behalf of the delegates. Dr. Thresh then read the report of the Executive Committee and Mr. Umney the Treasurer's report, which were on motion adopted.

President Greenish then delivered his annual address.

He discussed the recently issued British Pharmacopœia, which, in his opinion and in the opinion of most pharmacists and chemists, did not adequately represent the advances pharmacy had made since the last edition. Every British pharmacist must feel humiliated at the position occupied by pharmacists in respect to the compilation of the Pharmacopœia; pharmacy was not adequately represented in the Pharmacopœia Committee of the Medical Council.

The International Pharmaceutical Congress at Brussels had been of great service to pharmacy, even though the proposed International Pharmacopœia should be possible only in the far distant future. The position of pharmacy in Great Britain was not high. The separation of the practice of medicine from pharmacy might occur in the future, but legislation could not hurry it. There seemed to be a tendency to the formation of a distinct line of separation between the pharmacist proper and the drug-retailer or dry salter. Prescription of proprietary remedies by English medical practitioners was becoming frequent and was sapping the foundations of both medicine and pharmacy. Unofficinal formulas resembling these nostrums should be drawn up by the pharmacist, and would no doubt be gladly prescribed by the medical profession. Such a formulary could with great propriety be drawn up by the conference. A new system of pharmaceutical education was necessary; Great Britain should be divided into districts, and a committee appointed for each district.

The address was discussed by Mr. C. Thompson and Mr. Arblaster of Birmingham, Mr. H. B. Brady of New Castle and Mr. Reynolds, who strongly advocated the views expressed in regard to proprietary remedies, education and an unofficinal formulary.

After the usual vote of thanks and response therefor the sessions were mainly devoted to the reading of papers, which are abstracted elsewhere. Mr. Reynolds of Leeds, in discussing the president's suggestion as to an unofficinal formulary said that two years ago at the conference the subject had been broached. Since then the matter had been successfully carried out in France. Last year American pharmacists made a great advance. In a recent report of the American Pharmaceutical Association, it was shown that a formulary had been issued for two years, which contained eighty-one preparations; fifty-two were elixirs, ten emulsions, six syrups, and three wines. There was a feeling among the English pharmacists that something similar ought to be done, for the evil at present borne was a very great one. The way proprietary medicines were forced upon the medical profession was contrary to the interests of the pharmaceutical body, and very damaging to physicians themselves. After some discussion by Mr. Atkins, Dr. Symes, Mr. Ince, Mr. Maben, Mr. Southall, Mr. Naylor, Mr. Martin, Mr. Lascelles-Scott, Mr. Groves, Mr. Hampson, Mr. Wilmot, Mr. Schacht, Martindale and Reynolds, the following resolution was unanimously carried: "That the following gentlemen, with power to add to their number, constitute a committee for preparing a formula of non-official remedies, and report to the Executive Committee, and that a sum of £25 be granted for expenses: Mr. Greenish, Mr. Groves, Mr. Martindale, Dr. Symes, Dr. Thresh, Mr. Martin, Mr. Naylor, Mr. Maben, Mr. Abraham, and Mr. Reynolds."

WISCONSIN UNIVERSITY SCHOOL OF PHARMACY.—The present session opens with forty-seven students; the largest number ever enrolled at an opening session. Professor Sargeant, late of Harvard, occupies the Chair of Botany, succeeding Professor Seymour, who resigned to become Curator of the Harvard Cryptogamic Museum. Professor Sargeant has rendered the course on Botany more than usually attractive. Mr. Edward Kremers has been appointed assistant to the Chair of Pharmacy. The new chemical building, which replaces the laboratories burnt two years ago, is nearly completed.

BUFFALO COLLEGE OF PHARMACY.—This college opened its first session as a department of Buffalo University Sept. 20, 1886. At the opening ceremonies, in a speech very appreciative of the benefits of educated pharmacists to a community, the Hon. E. Carlton Sprague delivered the charter of the school to Professor D. S. Kellicott, dean of the faculty, who responded in a fitting manner.

Mr. Clay W. Holmes, the New York State Association Secretary, delivered an address to the students, in which he spoke of the nobility of pharmacy as a profession. Chemistry may be regarded as a distinct science, still it is so interwoven with pharmacy as to partake of its very existence. There might be chemistry without pharmacy, but pharmacy cannot exist without chemistry. The latter owes its birth and growth to pharmacy. The most noted chemists of the age had been poor struggling apothecaries, who, in the practice of their drudgery, have given birth to the greatest discoveries which have made chemistry what it is. The connection of mineralogy, botany and materia medica with pharmacy was self-evident.

Dr. F. P. Vandenbergh responded for the students, he discussed the relationship of pharmacy and medicine, and denounced the patent medicine and nostrum traffic as inimical to pharmacy. The Buffalo College begins its career under most favorable auspices.

The Illinois Board of Pharmacy has been making things unpleasant lately for persons violating the pharmacy law. A Chicago physician (registered pharmacist), who was "conducting" a pharmacy after the usual fashion, was fined $50; another party was made to pay $100.

Notes and News.

Tasmania is about to regulate the sale of poison.

English patent medicines are extensively sold in China.

G. Meyer, a leading pharmacist of Hahnville, La., is dead.

The Bulgarian difficulty has caused a "corner" in attar of roses.

Suicide by means of match poisoning is increasing in England.

Dr. J. Wakeley, the editor of the widely-known London Lancet, is dead.

"Hopeine" was some years ago the anti-prohibition name for beer in Iowa.

The Kansas City pharmacists have formed a mutual protection association.

Laudanum sales do not come under the operation of the English poison law.

Lungtan tsao is the Chinese for gentian root, and tsao wu for aconite root.

The gatherers of figwort on hot days rapidly become intoxicated by its fumes.

Dr. Wm. Root, the oldest pharmacist of Georgia, began business in 1836 in Augusta.

Mr. Luke Duffy, a prominent pharmacist of New Orleans, La., died Sept. 18, 1886.

"Matta," the ground shell of setaria Germanica, is used in Austria to adulterate spices.

Dr. Fowler, of the examiners of the English Society of Apothecaries, died Aug. 7, 1886.

Faraday was the descendant of an old Irish clan. His name is the Irish term for a dude.

"Chinese wax," the product of Coccus Chinensis, is becoming a regular article of export.

The discovery of gold at Kimberley, South Africa, caused an African "boom" in quinine.

The British Hydrophobia Committee offers a reward for a "mad dog," but none is forthcoming.

Persia made 5,000,000 kilograms of olive oil last year, which was chiefly used in making soap.

Of 100,000 physicians in the United States, 70 per cent., it is said, dispense their own medicines.

Vanilla root (Liatris odoratus) is used in Hamburg as a tonquin-bean substitute in snuff-making.

A nursing-bottle "for a baby with a long tube" is the latest contribution to medicinal appliances.

Lockjaw is said to arise as a contagious disease in horses, and to be communicable from them to man.

Mr. Leconte, of Rouen, Normandy, has bequeathed $100,000 to the French Academy of Sciences.

Opium to the extent of $1,700,000 is annually exported from Bushire, the seaport of Southern Persia.

There is a mountainous range of rock salt in Colorado in which several canyons sixty feet deep exist.

Cactus cultivation is being discontinued in the Canaries since cochineal production is no longer profitable.

The Houston (Tex.) Daily Post claims that that city is excellently adapted, on account of water and other power, for the location of a chemical works. Toilet soaps, perfumery, and other chemical industries could, it claims, be carried on there to great advantage.

The "ginger beer bottle" seems to be very fatal to Englishmen who drink ammonia from it for pop.

The English High Court of Justice recently held that descriptive words do not constitute a valid trademark.

The Carlsbad spring has been rented for $75,000 a year to the Eisner & Mendelson Company, of Philadelphia.

Belladonna and dandelion extracts are now playing the parts of quinine and morphine in pharmaceutical errors.

Phorbium tenax, the New Zealand flax, has fibers equal in strength to the best wrought iron of the same thickness.

Paris green and "Rough on Rats" cannot be sold in Iowa for any purpose whatever except by a registered pharmacist.

The production of citronella oil in Ceylon is increasing. One New York firm imported three thousand cases last year.

E. H. Henry, a prominent druggist of Omro, Wis., died from the effects of carbolic acid taken in mistake for beef extract.

The latest monopoly is that of Cuban sponges. The successful growth of Long Island sponges will soon dispose of it.

The consumption of alcohol in the British Isles has decreased, while the amount of tea consumed has increased 20,000 tons.

Pine-apple peel contains an acrid poison, which is the cause of the sore mouth sometimes following the eating of pine-apples.

The widespread denunciation of the cocaine habit is said to have seriously injured the sales of "Cocaine," the "hair-restorer."

The Atlantic Monthly states that a beverage made from the best sea island cotton seed cannot be distinguished from the best Java.

Hahnemann had his first controversy with the apothecaries as he persisted in dispensing his "potentizations" in defiance of the law.

An alleged synthetically produced quinine sulphate presented to the French Academy of Sciences turned out to be ammonia sulphate.

The confusion of solution of strychnine and chloroform water, or carbolic acid and dill water, is the prevalent English pharmaceutical error.

Jeweled hypodermic syringes and ornate morphine flasks are used by the Turks instead of the "theriac" opium pills of their Mohammedan ancestors.

A recent English advertisement reads: "A lady and gentleman desire the services of a physician suffering from liver complaint and nervousness."

It is well that the President of the Iowa Commission of Pharmacy resides in a Fort these turbulent days in that State, or there is no telling what might happen.

Mr. Alviso B. Stevens, a graduate of the Michigan University School of Pharmacy class of 1875, one of the officers of the Michigan State Pharmaceutical Association, and formerly President of the Detroit Pharmaceutical As-

sociation, has been appointed Lecturer on Pharmacy in place of Prof. T. J. Wrampelmeier resigned in the Michigan University School of Pharmacy.

According to an English pharmacist, what are sold for four-ounce vials contain but three and a half ounces, while the two-ounce vials contain two and a quarter ounces.

Six ounces of cocaine have been sold by "hand sales" in six months in a single pharmacy in New York City. The popular craze for cocaine dissipation is on the increase.

The Japanese government has given permission to the camphor gatherers to cut down trees in out of the way places, which will prevent a rise in the price of camphor.

At the time of the Lisbon earthquake a Spanish quack advertised pills against earthquakes. This field of industry has been sadly neglected by American patent-medicine men.

The Rhode Island Supreme Court holds that numbers arbitrarily chosen can be used as trademarks, but that numbers already in use and known to the trade can not be so appropriated.

The Chicago College of Pharmacy had no formal opening this year. The opening lecture was delivered by Prof. Garrison. There are 173 students already entered for the present session.

Mr. Garrett W. Brown, of the firm of Brown & Buck, a prominent pharmacist of Anderson, Ind., died Sept. 26, 1886, from the effects of belladonna self administered in mistake for dandelion.

An Iowa quack told the Iowa State Board of Examiners that strychnine was the solid extract of belladonna, and that the dose was two to five drops. He had practiced in Nebraska for three years.

Mr. Booth, a chemist and druggist in England, declined on principle to allow the vaccination of his child, and was fined by a court. There is in London a society called the Anti-Vaccination Society.

According to the Chemist and Druggist the alleged discovery of artificial quinine by a Lincoln's Inn Fields gentleman is a hoax. Something on the same order as the discovery of hopeine, it seems.

Tract headings for patent-medicine advertisements are now becoming common. Considering the share clergymen and religious weeklies had in the patent-medicine furore, this is only a natural result.

Mr. Alfred H. Mason, of Montreal, elected chairman of the Committee on Drug Market at the recent meeting of the A. P. A. at Providence, R. I., has been made an honorary member of the Ontario College of Pharmacy, Canada, in recognition of his labors in the interests of pharmacy.

Dr. Oliver Goldsmith, of "Vicar of Wakefield" fame, drew up a prescription for his first patient, Mrs. Sidebothan, which alarmed the apothecary who was to dispense it. As the lady sided with the apothecary, Goldsmith threw up the case and abandoned the practice of medicine at the same time.

A number of instances have lately been reported in which pharmacists have poisoned themselves by drinking carbolic acid for whisky, belladonna fluid extract for dandelion, etc. In all probability some of these accidents were due to the practice which obtains in some pharmacies of using graduates as medicine glasses. A pharmacist pours out a dose of medicine for himself, and being called away leaves the graduate unemptied. Another employe throws out the contents of the graduate and uses the same to dispense other remedies; he is called away for a minute the other returns, swallows the mixture, and a case of poisoning results. The complete prohibition of the use of the graduate as a drinking glass would prevent most of these cases of poisoning.

The announcement of the Chicago College of Pharmacy for 1886-'87 is a finely illustrated catalogue, giving concise information regarding the advantages offered by this institution. The fees at this college have been considerably reduced, though the quality of instruction is more than maintained.

Dr. Joseph Moeller has been chosen professor of pharmacology and pharmacognosis in Innsbruck (Tyrol); Dr. Richard Maly, of Graz, Austria, has been appointed professor of chemistry in Prague; Dr. B. Edler von Jirus has been appointed professor of pharmacology and pharmacognosis in Prague.

"The quinine market," said J. M. Peters, as he dropped off the train at Pittsburg on his way to Minneapolis, to an interviewer connected with one of the great dailies, "the quinine market is—" "Quinine," interrupted the reporter, anxious to display his medical knowledge, "that's the new anaesthetic, isn't it?"

The Illinois College of Pharmacy held its formal opening Sept. 30, 1886. The Rev. Dr. Cummings delivered an address and Mr. Chas. H. Ham a lecture on "Manual Training; or, the New Education." The exercises were attended by an interested audience. The college opens with sixty-one students.

An oil for illuminating purposes is produced in Sweden from the roots and stumps remaining after the timber has been cut, by means of destructive distillation. A number of substances are produced, among which are acetic acid, creosote, oils of turpentine, tar, etc. The coniferous trees yield the greatest amount of this "burning" oil.

The Chicago Drug Clerks' Association held its regular semi-monthly meeting at the Chicago College of Pharmacy Wednesday, Oct. 6. The various committees are actively at work to place the association upon a permanent basis. A call is being made on all registered drug clerks to avail themselves of this opportunity for mutual improvement.

The Volta Prize of $10,000 for a discovery which shall render electricity economically useful in one of the following applications: As a source of heat, of light, of chemical action, of mechanical power as a means of transmission of dispatches, or in the treatment of disease, will be awarded June 30, 1887. It is open to universal competition.

A definition of "pilular consistency," if incorporated into the Pharmacopœia, could not be more striking than that exhibited at the Holloway College, London, erected from the proceeds of the famous pills of that name. From an English journal we learn that the ornamentation in the mammoth structure consists chiefly of "pills" from the cellar to the ball surmounting the lightning-rod. Holloway evidently was a firm believer in "pilular consistency."

The cultivation of ginseng in Corea was the subject of a report of United States Consul Foulk stationed there, from which country the most valued varieties are derived. The difference in color of the roots as found in Japanese commerce, some specimens being red, others white, is readily explained by the fact that the red color is caused by the process of curing to which the roots are sometimes subjected. This curing is a monopoly, the proceeds of the sale going to the government. The red root is mostly dis-

posed of to the Chinese, while the natives of Corea prefer the crude root. Roots of wild plants are most highly esteemed, and when thirty years old or more command fabulous prices.

Dr. Chevreul combed and cut his hair, and danced till 10 P. M., by way of beginning a second century. Among the speeches delivered at his centenary was one by Nadault de Buffon, a great-grand-nephew of the naturalist. Chevreul prefers the Anglo-Saxon hand-shaking to the French kiss as a mode of salutation. He has eight great-grand-children.

President Williams in his address to the Connecticut Pharmaceutical Association calls attention to the report of the special committee appointed to suggest a plan for the "primary education in pharmacy of those entering the calling." The committee having exhaustively investigated the lecture system of the National Institute of Pharmacy advise its adoption by all who desire to equip themselves thoroughly for the profession, and cannot for any reason avail themselves of the advantages of college instruction.

The informal conference of the State Association Secretaries, held at Providence on the occasion of the A. P. A. meeting, was attended by the Alabama, Connecticut, Iowa, New York, New Jersey and North Carolina Secretaries. Measures were adopted which are likely to redound to the benefit of the Secretaries individually, and to the welfare of the State Associations.

Dr. Greenleaf, a prominent physi cian of Milton, Iowa died Tuesday afternoon from the effects of an overdose of nux vomica. This is the second physician of Van Buren county that has lost his life by dispensing his own medi cines. It would seem the safer rule to prescribe medicines and have them dispensed by a competent druggist.—Ft. Madison Plaindealer, Oct. 9.

A speaker at the A. P. A. meeting banteringly remarked that he could produce as good a Formulary as the N. Y. & B. in three days. This was cold steel to the heart of one member with a Record. "Do in three days what cost me months of hair-lifting toil," he moaned; "surely this must be 'Chicago brag!'" Thus reflecting, the great man of small things again embraced his little book, and was comforted.

The address of the President of the British Pharmaceutical Conference contained a reference to the condition of pharmacy in the rural districts in England, which, we trust, will be found to have been somewhat overdrawn. He says: "When a prescription makes its appearance once a fortnight or thereabouts, all hands, including the apprentices, are called forward to see this curious interruption to their ordinary duties."

A case of fatal poisoning from carbon disulphide is reported by Dr. Forman (Lancet) in the case of a shoemaker who drank some of the liquid upon recovering from a spree. The report fails to state whether it was pure carbon disulphide or the gutta-percha solution of it, so largely used by the victim's craft. He possibly labored under the impression that some portion of his inner economy needed repairs after the harsh treatment it had undergone.

In the Pharmacy.—Mr. Oppenheimer—"Rachel, haf ve got mooch of dot gholera migscher auf der sheluf?" Mrs. O.—"Yaw, Isaac, dere is two grosses of bottles of der migscher." Mr. O.—"Vell, send Schakey out for a parrel of green apples, und ve vill gif dem avay to der small poys der neighporhoot in. Hast du gesehen? Ve must dot peeziness poom alretty."

During a drug inspection which the pharmacies in Germany are subjected to periodically the inspector found in one of them a bottle containing powdered cantharides, which, much to his astonishment, presented in one part a rather lively spectacle. After gazing at the commotion (which was caused by the larvæ of insects) for some time in utter amazement, he inquired of the "provisor" what was "going on in the corner." The latter, quite equal to the occasion, replied earnestly that it was a colony of young canthariden.

"Yes, but how about the pulv. cantharides," persisted the inspector.

"Oh, well," was the unabashed reply, "they thrive better on that than anything else."

The inspector thought this so brilliant and interesting a culture phenomenon that the pharmacy was recorded "as in the best of order, everything exceptional as to quality and quantity."

The Illinois Board of Pharmacy held its quarterly examination in this city October 12–15 last, with a class of about one hundred and twenty applicants. The growing scarcity of drug clerks is the occasion of very considerable comment at this time, and in the opinion of many the Board might relax its requirements somewhat with advantage to all concerned.

The exposè of the "great Nerve Food, Moxie," in the Western Druggist for August occasioned much comment. The American Analyst (N. Y.) having been criticised by the owner for publishing a fictitious formula, in which nux vomica was given as the chief ingredient, by way of rejoinder published the item which appeared in the W. D. In again addressing that journal the "Moxie" man most courteously states that he saw "no unreason or malice" in our item, but that "the criticism was just and honorable"! In a supplemental examination the American Analyst gives the constituents practically as published in this journal.

The recent experiments of Succi on fasting are, as the Journal de Medecin de Paris remarks, very probably intended only as a means of advertising some new patent "nerve food," but such experiments naturally raise the question whether it be possible by means of remedies to gain for the system an increased amount of vital energy from a decreased quantity of aliment. That a large portion of the food ingested is wasted, so far as the vital processes are concerned, is clear to every physiologist. Upon the question whether this waste could be diminished by the use of remedies in the food turns the validity of the principle involved in Succi's claim. That such a thing is a bare possibility no physiologist can deny, but a discovery of this kind would have to result from long, careful experimentation rather than by accident. Coca has been claimed to have this property, but its action is obviously due to its diminishing the sense of hunger rather than increasing the amount of strength derived from food.

Virginia Board of Pharmacy.—This Board held its examination session Oct. 5, 6 and 7, 1886. Twenty-one applicants were examined, of whom seventeen received licenses. The following were the licensed:

W. E. Horne, Hicksford; D. M. Penick, Culpepper; W. S. Parkinson, Warrenton; H. L. Carter, Warrenton; J. P. Hall, Jr., Suffolk; G. S. Aldhizer, Broadway; G. H. Bell, Staunton; R. Haskins Thomas, Charlotteville; W. N. Berkeley, Staunton; G. M. Allen, Clover Depot; W. F. Eanes, Richmond; J. Broadnix, Manchester; R. L. East, Richmond; Jeff. Davis Bradfield, Alexandria; W. P. Partin, Onancock; W. Y. Simpson, Raleigh, N. C.; Hand Edmonds, Warrenton, Va.

The examination was thorough but not finically severe; the next session will be held March 25, 1887.

THE WESTERN DRUGGIST.

VOL. VIII. No. 11. NOVEMBER 15, 1886. { Subscription Price, $1.00 per annum. G. P. ENGELHARD & CO., Chicago.

LIQUOR CHLOROFORMI COMPOSITUS, (CHLORODYNE).

BY B. L. MALTBIE, RANDOLPH, N. Y.

In presenting the subject of chlorodyne I am aware of the fact that there is a great deal of prejudice against preparations of this character, but as chlorodyne is now coming into general use quite rapidly among the practicing physicians, and is fast outgrowing prejudice against it, and as it is a preparation often imperfectly understood and as imperfectly prepared, I feel that I am justified in taking it up for consideration.

Chlorodyne is supposed to have been first produced by Dr. J. Collis Brown in 1848, while serving in the English army in India, and was presented to the public soon after. It at once attracted marked attention, and sprang into general use in England, and achieved a great reputation which it has since maintained. Dr. Brown died Sept. 1, 1884, without having made known its composition to the profession, in consequence of which there has been put upon the market from time to time, various compounds purporting to have the same composition as Brown's, which often have been offered with no claims as such, but are being sold at exorbitantly high prices, though still very much cheaper than Brown's.

There has also been published, from time to time, various formulas for its production all varying greatly in their composition, both in the ingredients and in the quantities of each used, some authors insisting that cannabis indica is included in the original prescription, while others are equally positive that it is not; they also disagree as to the form in which the different ingredients are to be used and in the mode of preparation, thus it will at once be seen, giving us a formula containing very active drugs in an indefinite quantity and proportion, and nearly always unscientifically prepared.

My attention was first called to this compound by the demand that was beginning to spring up for it, and in consequence of the very high price of Brown's and all the various substitutes, I endeavored to find a formula which would produce a compound as nearly identical with Brown's as possible, in medicinal properties if not in appearance, and thus having a compound always uniform in strength, and in which the formula was known to a certainty, and which could be produced at a reasonable price. At first this would seem to be a comparatively easy matter, as there were so many formulas to be found, but I soon learned that this was a somewhat difficult matter in consequence of the varying proportions, and the faulty way in which they were put together, nearly all being mere mixtures of chloroform and ether in molasses or simple syrup, or in both, in which they would not mix, making very unsightly preparations which would separate on standing, and which could not be reduced with water in administration.

Although I used one of the formulas for some time, I found I could not make a satisfactory preparation from it, and that I should have to look further for a suitable formula. After very many experiments, I devised the formula which I think will answer all of the requirements in a preparation of this character. Before presenting it I shall review some of the principal formulas which I have seen, that the objections to using them may be more readily understood. I am aware of the fact that every pharmacist has his own preferences as to a formula, though I think that at the present time most chlorodyne is purchased of the manufacturing pharmacist.

Of the formulas to which I directed my attention I will here mention those of Peter Squire, E. Smith, Dr. Hager, Dick, Fenner, Dr. J. H. Gilman, U. S. Dispensatory; there are others which I do not deem of enough importance to mention at this time, and which, including those named, would not make a satisfactory compound in my hands. Smith's formula, which was formerly recommended by Stille and Maisch, with Squire's formula, which was adopted by the American Pharmaceutical Association, and those of Dick, Hager, and Gilman, are mixtures of chloroform and ether with molasses or simple syrup, resulting in an inmiscible compound.

Squire's is a somewhat complicated formula, and contains a large amount of powdered extract licorice, which does not all dissolve, and all together making a very unsightly compound. Besides it does not contain enough morphine, although, if that were the only objection, it could be easily remedied.

Smith's formula, on the other hand, contains too large an amount of morphine, thereby differing from Squire's, also too large an amount of hydrocyanic acid dil., and Tr. capsicum; though the ingredients are mixed with mucilage of acacia, I was not able to produce a compound which would not, after a time, separate.

Dick's is the most complicated formula of the series given, and is in many ways undesirable otherwise, being a mixture with molasses.

Fenner's (No. 1) contains deodorized tincture of opium, supposed to be the form of opium used in Brown's, but it is objectionable on account of the variable strength of this tincture as commonly found, morphine being preferable. Fenner's formula No. 2 contains too much morphine, chloroform, and cannabis indica, in proportion to the other ingredients.

As will be noticed at once, there is also great variance in the strength of these compounds, especially in the amounts of chloroform, morphine, and dil. hydrocyanic acid contained in them; for instance, while Squire's formula contains only ¼

grain morphine to 1 fl. ounce of the mixture, Smith's contains 5 grains, and the formula of the U. S. Dispensatory contains the most of any, there being 8 grains to be found in each ounce. The amount of chloroform is about the same in Squire's and Smith's, none being found in the U. S. D. Fenner's (No. 2) contains only ¼ dram of dilute hydrocyanic acid while 4 drams is to be found in the same amount of chlorodyne by Smith's formula. The amounts of chloroform and ether do not vary as much; still there is considerable difference. Though the amounts of peppermint and capsicum in various forms differ somewhat, it is not important.

These comparisons will show at once the great danger in the use of this preparation as it is being bought and sold at the present time. As to whether chlorodyne should contain cannabis indica, there is great diversity of opinion, many formulas containing it while others do not, but as chlorodyne which contains it approximates more closely the original prescription of Brown's, than one without it, and as it is certainly valuable in preparations of this character, it would seem advisable to admit it.

Below will be found the formula which I devised, and have used with success for some time:

Morphine, hydrochlorate (muriate) grs.	16
Alcohol,	fl. dr 12
Tr. cannabis Ind.	fl. dr 4
Oil peppermint,	minims 6
Tr. Capsicum	" 15
Chloroform,	fl. dr 4
Acid Hydrocyanic dil.	fl. dr 1
Glycerin sufficient to make	fl. ounces 4

Dissolve the morphine in the alcohol, add the tincture cannabis indica and other ingredients, in their order.

Taking advantage of the solvent power of glycerin, I am able to produce a formula that is easily and readily prepared, and a compound which is at once transparent, elegant in appearance, and which will not separate on standing as those which contain molasses or simple syrup. Cannabis indica is introduced in the form of tincture, that being the most convenient form to use. Ether is omitted, as it is unnecessary in connection with chloroform. The preparation contains ½ grain morphine in each fluid dram.

The medicinal properties of this compound are anodyne, diaphoretic, sedative, anti-spasmodic, astringent and diuretic, containing the medicinal properties of opium, combined in an agreeable form with chloroform, cannabis indica and hydrocyanic acid; it is rapid in its action and often beneficial where other anodynes fail. It promises to become one of the most popular hypnotics.

That it is a valuable preparation when properly prepared is generally admitted. At the present time its greatest drawback seems to be the great danger in its use in consequence of the many varying formulæ, the many recent compounds which are sold, and in the loose manner in which it is prepared, while the high price of Brown's, coupled with the fact that it is also a secret preparation, precludes its use to a certain extent.

It would seem, therefore, in order to remedy this evil, that chlorodyne should be made an officinal preparation, as the only way by which it can safely come into general use.

I think, moreover, from what has been shown, that chlorodyne and its composition should be more fully investigated, in order that it may receive its just due, and this only can be possible where uniformity in preparation has been attained.

THE U. S. P. METHOD OF ASSAYING OPIUM.*

T. J. Wrampelmeier and G. Meinert after careful experimentation have formulated in a paper read before the last meeting of the Michigan Pharmaceutical Association, the following conclusions on this subject:

First. The increase in volume by solution of extractive matter is not sufficient to warrant the taking of fifty-two C.c. of the filtrate as representing five grams of opium. The volume directed by the U. S. P. seems to be very nearly correct. At least it would require further experimentation to warrant a change.

Second. About two per cent. of the morphine in the mother liquor, is retained in the mother liquor after crystallizing the morphine according to the U. S. P.

Third. Excess of either ammonium chloride or free ammonia increases the solubility of morphine in the mother liquor. Experiments should be made with a view to reducing the amount of ammonium chloride and of lime.

Fourth. The mixture of opium, lime and water should not be allowed to stand in an open mortar, but should be made in a mortar and thence transferred to a stoppered flask or covered vessel of some kind to macerate.

Fifth. The filtrate should not be measured in a bottle or flask as directed by the U. S. P., but in a narrow graduate cylinder.

CAFFEINE IN COFFEES SOLD IN MICHIGAN.*

BY E. D. SMITH, PH. C., ANN ARBOR, MICH.

To determine the quantity of caffeine, mix ten grams of coarsely powdered coffee with two grams of magnesium hydrate; add this to 150 C.c. of water; boil five minutes, percolate to 200 C.c., boil again with 100 C.c. water; percolate to 300 C.c.; mix the two percolates and evaporate to twenty C.c. Add this twenty C.c. to 120 C.c. strong alcohol which precipitates pectinous matter; filter and wash the residue left on the filter with strong alcohol; evaporate off alcohol from united filtrate and washings, dissolve off remaining extract in successive small portions of water; transfer resulting solutions to separating apparatus, and extract with chloroform.

Results obtained: Rio 1.3 per cent.; Rio 1.185 per cent.; Rio 1.03 per cent.; Peaberry 1.97 per cent.; Pedeung Java 1.095 per cent.; Maricaibo 1.37 per cent.; Costa Rica 1.104 per cent.; Porto Rico 0.885 per cent.; Lauagra 1.62 per cent.; Savanil 0.855 per cent; Mexican 0.682 per cent. Little or no caffeine was lost in roasting.

XANTHOXYLON CAPENSE has been found of value in the treatment of blood poisoning arising from eating the blood of cattle dying from splenic fever.

* Abstract of paper read before the Michigan Pharmaceutical Association.

ABSTRACTS.*

BY PROF. VIRGIL COBLENTZ, SPRINGFIELD, OHIO.

ABSTRACT IGNATIA.

This preparation, almost a repetition of abstract nux vomica, is still retained in the category of abstracts, although, according to authorities, it contains the same alkaloids, though in widely variable proportions.

The complete extraction of ignatia, while presenting difficulties of a somewhat similar nature, yet in conjunction with the variable proportions of the alkaloids contained therein, as stated by authorities, will in all probability show us widely varying results.

In the estimation of total alkaloids the methods applicable to nux vomica are equally good for ignatia. That of Dunstan and Short for assay of pharmaceutical preparations of nux vomica, slightly modified, was found accurate and quick, viz.: 5 grams of the abstract were dissolved in 10 C. cm. of dilute sulphuric acid, 2 of chloroform and 2 of distilled water, and, after slight warming and perfect solution insured, the entire product was transferred to a separating funnel and shaken repeatedly with excess of ether; lastly with a mixture of ether and chloroform until the ethereal liquids ceased to remove any further coloring or extractive matters. Dunstan and Short remove the chloroform from the acid solution after the first agitation, then adding alkali and ether; this was not found to be sufficient, as further color and extractive were taken up on employing more ether and chloroform. An excess of liquid ammonia conc. was then added and agitated with several portions of absolute ether containing chloroform. Three agitations were found sufficient for removing the entire amount of alkaloid from the solution. The residue was then dried on a water bath at a low temperature until it ceased to lose weight.

After having obtained the alkaloid in as pure a form as possible, entirely free from color, the quantitative estimation of the amounts of strychnine and brucine required attention.

Thus far several methods have been suggested, but wanting in results. The volumetric method with Mayer's reagent; same by Mayer's improved (addition of two-thirds more KI), with potassium ferrocyanide, and Dr. Schweissinger's alkalimetric method, are the principal ones proposed. Dr. A. B. Lyons has given us some valuable results of his work on the method of Mayer's reagent, proving its inaccuracies. Desiring, however, to give them all a trial and to append their comparative results, I experimented with each in turn.

Samples of neutral alkaloids, strychnine and brucine were obtained and examined, to be assured of the absence of impurities and contaminations of one with the other. From these a series of testings were performed, the results, however, showing so much variation under almost identical conditions as to effectually preclude the use of the Mayer's reagent.

[Tabular exhibits were here appended showing that the work had been conducted on an elaborate scale. These we are obliged to omit.—ED. W. D.]

In the titrations in the brucine solutions the amount of fluid in the solution was varied considerably, and the greater the variation the greater the discrepancy in the results obtained. If equal amounts of brucine solutions were operated upon (both being alike in acidity) the results obtained are reasonably close, but when it is to be applied under different conditions, as would be necessary, it becomes entirely useless.

In the employment of the modified Mayer's reagent, the end of the reaction is more readily determined than in that of Mayer's solution itself, and hence this may account for the closer results in the employment of the modified reagent, as in the old Mayer's solution it requires considerable caution to determine just when the precipitation should be called complete.

Upon the whole the employment of Mayer's solution or its modification in the estimation of strychnine is subject to too many variations and conditions to permit of its employment in the quantitative estimation of either strychnine or brucine.

The method recommended by Dunstan and Short, which consists in the precipitation of the strychnine from acid solution with potassium ferrocyanide, was given a trial. It was attempted to apply it volumetrically, as well as gravimetrically. In weak solutions of either strychnine or brucine, after the addition of a normal solution of potassium ferrocyanide the alkaloid separated very slowly in a white, granular-like, crystalline form. When employed volumetrically, it was found that, unless both the ferrocyanide and strychnine solutions were strong, precipitation was very indistinct and slow-forming; the end of the reaction would then be difficult to determine, as a decided excess of either solution might be added before the separation of a precipitate might be noticed. The precipitate when carefully collected, washed, dried and weighed, admitted of very close results. It was necessary to add dilute sulphuric acid from time to time during the precipitation to retain strong acidity, which is so essential to prompt precipitation of the strychnine. A slight excess of the ferrocyanide solution is essential in order to be assured of sufficient reagent for the entire precipitation of the alkaloid. To insure accuracy of results the operation must be closely watched to avoid losses, and a balance (accurate) must be at hand. In considering the means and wants of the pharmacist, this process would not be admissible, as it will not permit of rapid and close work without the constant use of a balance.

The following process (alkalimetric) proposed by Dr. Schweissinger fulfills the wants of the pharmacist. He employs decinormal acid (HCl) and decinormal alkali (NaOH). One C. cm. (0.003637) of decinormal acid neutralizes 0.00394 brucine and 0.00334 strychnine. The mixed alkaloids are weighed into a beaker, dissolved in slight excess of the decinormal HCl, noting the exact amount employed. Litmus is used as indicator. The solution is then carefully titrated back to neutrality with the decinormal alkali. The number of cubic centimeters of alkali employed is subtracted from the cubic centimeters of acid taken. The weight of alkaloid in milligrams is divided by this difference (giving number of C.c. of decinormal acid required to neutralize). Subtract the quotient from 3.94, divide the remainder by 6, and the quotient after removing the decimal point three places to

*Read before the A. P. A., 1886.

the right will be the per cent. of strychnine in the mixture; the brucine may be found then by difference (provided the product is free from foreign matters, as color and extractive). This method of estimation was first applied to estimation of strychnine and brucine separately in order to ascertain the accuracy of the results.

The decinormal solutions of NaOH and HCl were carefully prepared (1 C. cm. of the decinormal HCl exactly neutralizing 1 C. cm. of the NaOH). The amounts of neutral alkaloid strychnine were carefully weighed out into a capsule; then slight excess of decinormal HCl run into it; as soon as the strychnine was dissolved, solution of litmus was added, and the excess of acid was titrated back by decinormal alkali.

A number of trials were made and exhibited in tabular form, showing very close results. Five estimations of mixtures of 0.250 gram each brucine and strychnine gave an average difference of 13.73 C. cm. decinormal HCl, equivalent to 50.1 per cent. strychnine.

Three estimations of mixtures of 0.525 gram each of brucine and strychnine gave an average difference of 28.85 C. cm. decinormal HCl, equivalent to 50 per cent. strychnine.

In working large amounts above 1 dg., measuring gives us all that we can desire for accurate work; at and below this amount the decinormal acid and alkali should be carefully weighed, and will admit of extremely close and exact work. But for rapid and practical work for pharmacists, who may desire to estimate their products, measurement is reasonably accurate.

Results.

	Total alkaloids.	Strychnine. Gram.	Strychnine. Per cent.	Brucine. Gram.
No. 1.....5 grams	= 0.287	= 0.1813	57.1	0.0657
No. 2.....5 grams	= 0.209	= 0.1192	57.06	0.090
No. 3.....5 grams	= 0.221	= 0.0791	58.6	0.0539
No. 4.....5 grams	= 0.194	= 0.1168	55.1	0.0872
No. 5.....5 grams	= 0.218	= 0.1262	57.9	0.0918

ABSTRACT PODOPHYLLUM.

As is well known, the variation of the quality of this drug depends upon the amount of resin yielded. The poorer the quality the less the amount of resin present; hence, to judge galenical preparations of this drug we may apply the same method.

Five grams of each abstract was weighed and digested in a flask with excess of alcohol (U. S. P.), filtered, and flask and residue washed with further amount of alcohol until filtrate ceased to give any turbidity when dropped into water. The filtrate and washings were concentrated and poured into excess of distilled water (containing a small per cent. of HCl), allowed to stand and separate, then filtered, washed slightly and dried in an oven at low temperature till it ceased to lose weight. Each sample was assayed twice, and if results were close the average was taken:

	Resin	Per cent. in abstract.	Corresponding per cent in drug.
No. 1.....5 grams	= 0.596	11.5	5.9
No 2.....5 grams	= 0.463	9.2+	4.6
No 3.....5 grams	= 0.325	6.5	3.2
No 4.....5 grams	= 0.517	10.3+	5.1
No. 5.....5 grams	= 0.377	7.5+	3.7

The average yield of resin from the drug varies from 4 to 5 per cent., making the avarage of the abstract according to this from 8 to 10 per cent. It will be observed that our samples are within a very reasonable limit, considering the variable quality of the drug that may be found in the market.

ABSTRACT VALERIAN.

To judge the comparative quality of a preparation of valerian, wherein the process of manufacture is liable to be carried on to the loss of much of its sensible medicinal properties, is very unsatisfactory. As the medicinal value of valerian resides in the volatile oil and valerianic acid, and these are so readily altered by heat, that to examine the preparations for these principles is a matter beyond the time of the operator. As the extract of valerian has been and is still employed in practice as a representative of the drug (though a poor one), we were content to judge the comparative quality by the amount of soluble extractive contained in the abstract.

Five grams of the abstract were weighed into a flask and allowed to macerate with excess of alcohol (U. S. P.), then filtered, and residue washed with strong alcohol till filtrate ceased to leave any visible residue when evaporated upon watch glass. The amount of sugar of milk taken up by the strong alcohol was very small. The alcoholic filtrates were evaporated at low temperature on water bath until they ceased to lose weight.

Results.

	GRAMS.
No. 1.....	= 5 grams = 1.055 extract = 10 5 per cent. in drug.
No. 2.	= 5 grams = 1.170 extract = 11.7 per cent. in drug.
No. 3	= 5 grams = 0 930 extract = 9.3 per cent in drug.
No 4.....	= 5 grams = 1.109 extract = 11 0 per cent. in drug
No 5...	= 5 grams = 1 092 extract = 10 9 per cent. in drug.

The amount of extractive yielded by valerian seems, according to authorities, to vary considerably. Dr. Squibb states that he obtained solid extract equal to 9.2 per cent. of the valerian root represented; other authorities state the amount to be as high as 20 per cent.[1] The difference in the alcoholic strength of the menstrua employed probably accounts in main part for the different results.

ABSTRACT SENEGA.

Pharmaceutical preparations of this drug are best judged by their acrimony, which is undoubtedly mainly due to the polygalic acid, residing chiefly in the cortical portion of the drug. According to Proctor, the drug contains 5½ per cent. of polygalic acid, thus allowing about 10 to 12 per cent. in the abstract if made from the average drug. The process of separation followed is that recommended by Proctor, which is as follows (the exhaustion of drug is supplanted by that of abstract): The abstract was macerated and exhausted with a mixture of 2 parts alcohol to 1 of water, the filtrate evaporated till the alcohol was driven off, the aqueous solution was transferred to separator and repeatedly agitated with several portions of absolute ether until the latter ceased to acquire color, the syrupy liquid was mixed with 3 parts of alcohol, then 1½ parts of ether, well agitated, and set aside to repose. The polygalic acid being nearly insoluble in this menstruum precipitates as a light fawn-colored precipitate. All the acid was known to be precipitated as the filtrate ceased to precipitate on being added to the mixture of alcohol and ether. The supernatant liquor was decanted from the precipitate, the balance was thrown on to a counterbalanced filter, dried and weighed. The acid still contained traces of coloring matter.

[1] Extract valerian U. S. P. [70] owing to dilute alcohol being used in extraction.—[ED. W. D.]

It was dissolved in small amount of hot water, added to alcohol and ether, again filtered, dried and weighed.

Results.

Abstract.... 5 grams	= Polygalic acid.	= per cent	in drug.
Abstract.... 5 grams	= 0 479 gram	= 4 79	
Abstract.... 5 grams	= 0 503 gram	= 5.08	
Abstract.... 5 grams	= 0 423 gram	= 4 25	
Abstract.... 5 grams	= 0.340 gram	= 3 40	
Abstract.... 5 grams	= 0.497 gram	= 4.97	

ABSTRACT BELLADONNA.

Five grams of abstract were weighed into a flask and digested with 25 to 30 C. cm. distilled water acidulated with hydrochloric acid, then thrown on to filter, the flask and residue washed with acidulated water until filtrate ceased to give reaction with alkaloidal reagent (I in KI). Care was taken to avoid the employment of any larger amount of the aqueous liquid than possible, thus obviating the prolonged application of heat (necessary to concentration) which might be the cause of decomposition of the alkaloids.

The acid liquid was washed with chloroform to remove portion of color, then slight excess of ammonium hydrate added, dissolving out the alkaloid with chloroform, shaking the chloroform solution with double its volume of acidulated water, separating the aqueous alkaloidal solution and again treating it with excess of ammonia, and agitating with several portions of chloroform to thoroughly remove all traces of alkaloid. The chloroform solutions were evaporated and dried at low temperature until it ceased to lose weight. (This method is that recommended by Dunstan and Ransom). The residue was entirely free from color and extractive.

Results.

No. 1 5 grams=0.051 gram alkaloid, correspond to 0.51 pr ct. in drug
No. 2..5 grams=0.054 gram alkaloid, correspond to 0.51 pr ct. in drug
No. 3..5 grams=00.68 gram alkaloid, correspond to 0.68 pr ct. in drug
No. 4 5 grams=0.041 gram alkaloid, correspond to 0.41 pr ct. in drug
No. 5..5 grams=0.059 gram alkaloid, correspond to 0.59 pr ct. in drug

Our samples of belladonna will be seen to be very uniform, and all that could be desired.

The remaining abstracts of conium, hyoscyamus, and digitalis I was unable to reach for want of time, but expect to have them ready in time for the "Proceedings."

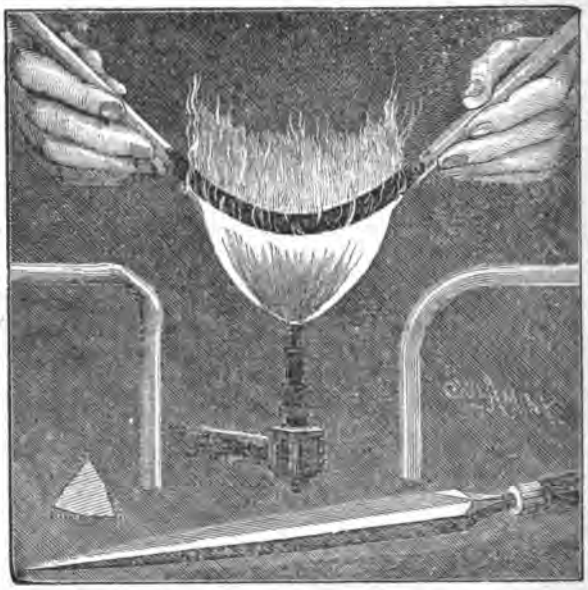
Judging these as far as we have gone, we will have undoubtedly observed that the largest majority of manufacturers turn out products which represent a carefully-prepared article made from an average well-selected drug. In a few cases where there is much variation it may be accounted for in the troublesome and difficult character of the drug to be worked. In drugs of tough and horny nature, and that present the difficulties of thorough exhaustion, as that of ignatia and nux vomica, there is some excuse for variations. Still, on the other hand, in the remainder of the abstracts the drugs employed are easy of exhaustion and procurable in abundance. Variation in these indicate careless selection or incomplete exhaustion of the drug, for which there can be no excuse whatever.

SOLANUM DULCAMARA ALKALOID.—Mr. F. Davis (Science), has found an alkaloid in Solanum dulcamara fruit, intermediate in action between physostigmine and atropine. The ripe fruits contain more than the unripe.

MANIPULATION OF GLASS-TUBING.

T. O'Connor Sloane, in contributing a series of articles on physics in the Scientific American, gives the following instructive advice regarding the manipulation of glass-tubing: To cut it into short pieces, a file is as good as anything. Glass knives, made of Wootz steel, are also very efficient. These are so brittle that the edge keeps flaking off, thus keeping always in cutting condition. To cut a tube, a small scratch is given it across one side at right angles to its axis. No deep notch is required. Then it is taken in the hands one on each side of the scratch, with the thumbs underneath the glass, and about an inch from each other. Both hands are now drawn apart, and at the same time a slight bending stress produced, the ends of the tube being drawn against the thumbs and toward the body. The tube thus treated breaks off square where the file has scratched it. The point is not to attempt to break the tube as if it were a piece of wood, but to combine a strong pull with a slight transverse strain.

By the file, or by holding the end in an alcohol lamp flame, the sharp cutting edge can be removed.



METHOD FOR BENDING GLASS TUBES.

A file soon becomes dull when thus used, but it can, by sharpening, be made to last a long time. The sharpening is done on a grindstone on each edge on one side only. Thus each corner is smooth on one side, and has file cuts on the other.

A convenient way of bending tubes is shown in the illustration. The tube is held in an ordinary gas flame, near its upper part, its length coinciding with the long axis of the flame. The tube is continually rotated. The flame soon coats it with lamp black. After a few minutes it begins to soften. As soon as it yields easily it can be slowly bent as desired, without being removed from the flame, the outer and inner sides of the bend being alternately exposed to the flame. On the right of the cut a good bend is shown, on the left a bad one, such as should be always rejected.

In pushing glass tubes through corks, care must

be exercised to avoid injury. The pressure should always bear upon a straight part of the tube. If any force is required, the tube should be surrounded by a towel. Sometimes the hand is badly injured by tubes breaking and lacerating it while being pushed through corks.

EVAPORATION OF PERCOLATES.*

BY J. U. LLOYD.

In a series of papers preceding this one I have referred to certain conditions that influence favorably or unfavorably, the act of percolation. Passing now to percolates, which we usually have to concentrate in whole, or in part, by evaporation in making the various pharmaceutical preparations, I will introduce a subject which we must also take into consideration in order to produce uniform results at different times, and when working varying quantities.

In making fluid extracts, and many other preparations, we have to evaporate reserved percolates, or entire percolates. It is generally accepted that a protracted application of heat to liquid preparations of vegetable origin is to be avoided, and in many instances it is certainly necessary to employ but little, and often avoid heat. In this paper I shall not consider the effect of the use of heat in individual percolates, but shall call attention to a feature of general application, and which is scarcely, if at all, considered by pharmacists. It involves the preparations of many substances, and may prove of interest to pharmacists who have overlooked this phase of the subject.

In making the official amounts of fluid extracts we usually have varying, but small, bulks of percolates to concentrate to a certain amount. Many of us have reason to increase the official quantities, and perhaps few pharmacists conform literally to the amount of drug specified in the Pharmacopœia.

The problem I bring forward is: Can increase or decrease of the amount of material cause a variation in the product, provided the proportions of all substances are maintained? For the sake of argument we will admit that in all operations the act of percolation is complete and uniform.

That an increase of proportions may make a difference in the product is evident to all who have reason to increase amounts from time to time. Often many times the original formula is employed; and that such an increase will make a variation in the quality of the evaporated product from the application of excessive heat alone, can, I think, be conclusively demonstrated. I will take as an example a substance in which the variation can be made apparent to the eye.

If 15 fluid ounces of vinegar of squill be evaporated to 1 fluid ounce, does it follow that this product is identical with like amounts of the product that results from the evaporation of 30 fluid ounces to 2 fluid ounces, the same temperature being maintained in each instance? Continuing, will the resultant liquid remain uniform when batch after batch is doubled, thus maintaining the proportion? In reply, I submit as samples in vials of uniform diameter:

*Read at meeting of the Am. Phar. Association, Providence R. I., 1886.

No. 1.—From 7½ fl. ozs. of vinegar of squill evaporated to ½ fl. oz.
No. 2.—From 15 fl. ozs. evaporated to 1 fluid oz.
No. 3.—From 30 fl. ozs. evaporated to 2 fluid ozs.
No. 4.—From 60 fl. ozs. evaporated to 4 fluid ozs.
No. 5.—From 120 fl. ozs. evaporated to 8 fluid ozs.

The evaporation was conducted in porcelain dishes of the usual dimensions. The temperature varied but little from 175° F. to 180° F. It will be seen that the specimen that I submit representing the smaller amount of drug, is a light amber color, but darker than the vinegar of squill used in making it, and that each successive batch increases in color with the increase of material until a dark brown red is produced. It will also be found that the odor varies from a pleasant dilute acetic acid in the small amount, to that of burnt cracker in the larger, and it is also true, that the flavor of successive batches becomes more foreign to prime squill, as there is an increase of material worked. Thus it is evident that there is a variation in product with each increase of batch, even though in all instances the same formula is followed, for in all these experiments, filtered vinegar of squill from one batch was employed. In explanation of the apparent inconsistency, a little thought will show us that the conditions were changed in each experiment, although the same process was followed, and that no two batches were submitted to the same application of heat.

	Time required for evaporation	Capacity of dish.	Surface of liquid before evaporation.	Surface of liquid after evaporation.
No. 1...	160 minutes.	12 ounces.	5 in. diam.	3¼ in. diam.
No. 2...	180 minutes.	32 ounces	6¾ in. diam.	3½ in. diam.
No. 3...	400 minutes.	32 ounces.	8½ in. diam.	5 in. diam.
No. 4...	470 minutes.	128 ounces.	9½ in. diam.	6 in. diam.
No. 5...	745 minutes.	128 ounces	11½ in. diam.	8½ in. diam.

The increase of evaporating surface in the usual evaporating basins, as we pass to larger dimensions, is not sufficient to produce a uniform product when proportions are increased accordingly. Therefore, it follows that with the substances injured by a continued application of heat, we must take into consideration the fact, for it is undeniable, that a conformity to the officinal process may be only apparent and not practical. I have selected as an illustration, a substance in which a change produced by heat is perceptible to the eye. It is not more clearly defined, however, than is the case in many other bodies that have come under my consideration, where I have been forced to increase batches, often to 1000 pounds or more, and I am not as enthusiastic as some persons are, regarding the injury following the application of a moderate heat to the majority of products from dried plants. There is no doubt, however, that in many cases a continued application of heat (simply from an increase of quantity, and where the operator really thinks that he will make a substance to conform with the Pharmacopœial requirements) may result in a product that in many respects would be entirely different from that made, if the official amounts were followed. The application of this rule is general, and, when the conditions of the apparatus are similar, favors the pharmacist who follows the U. S. P. process and applies it to large quantities. Doubtless all of us have been confronted with this problem by an observance of the change following the variation in batches, but perhaps we passed it by as unimportant, or argued that a like process must produce like results.

In another paper I speak of a fluid extract of

squill and say that the product ranges from the light amber to dark brown red in accordance with conditions of the evaporation. Herein I have shown that the larger the amount the more objectionable the product. By the usual methods of evaporation that formula is only applicable to small amounts, and cannot be employed in making large batches.

COLORLESS PREPARATIONS OF GOLDEN SEAL.

BY JOHN L. IRWIN, PH. C.

An experience of many years in the manipulation of large quantities of the drug "Golden Seal" and the separation and purification of all its active principles, has led the writer to look with some degree of interest into the claims of the several colorless preparations of golden seal of the market, represented to contain the full medicinal value of Hydrastis.

The plant Hydrastis Canadensis being the convenient source from whence are obtained all the preparations of berberine (yellow) and of hydrastine (white), is indeed a most important and at the same time most interesting and remarkable member of the organic list of medicines—important, in that it takes so prominent a place in the list of therapeutic agents; and interesting and remarkable because of its variable results in a chemical point of view.

While the writer will go hand in hand with others to so perfect forms and processes which will elevate and improve the present knowledge that this drug presents; yet he will at the same time denounce the mercenary claims of individuals who misrepresent the value of golden seal, by curtailing its field of usefulness in eliminating a most potent and active principle, and seek to influence the profession, by every crafty argument and insidious method to believe that in a solution without color can be represented in convenient form all the virtues of golden seal.

With the above end in view the writer has submitted an experiment, showing that colorless preparations of golden seal can represent only the virtues of the white alkaloid it is known to contain, and not the total value of the drug: Take one pound crude, well selected golden seal root; pass through No. 40 sieve; dampen with cold water (about twelve fl. ozs. required), allow to stand about two hours, then transfer to a wooden or glass percolator, and cover with a mixture containing four parts of sulphuric acid to 240 parts of cold water. Let stand over night, then run off and continue the percolation with fresh portions of cold water, until the drug is exhausted; place the percolate in a glass or wooden receiver, and make uniform by mixing well; precipitate with sulphuric acid under constant stirring, and let stand over night; decant the supernatant liquid (which should be reserved to obtain the white alkaloid); collect the precipitated crude sulphate of berberine on a filter, wash from excess of acid with cold water, dry and dissolve the dried product in ammoniacal water, filter to take out impurities, then crystallize as a sulphate by sulphuric acid, collect the crystals on a filter, and wash free from excess of acid with strong alcohol. The product when dried will weigh about 200 grains; of this take 30 grains, dissolve in 5 fl ozs distilled water, containing a few drops of ammonia, and divide into two equal portions.

Portion No. 1 should be decolorized by percolation through pure animal charcoal—the charcoal is purified in the usual way, care being taken to have all phosphates and chlorides absent, and lastly, to insure absence of organic matter and gases, the charcoal should be incinerated. To the decolorized liquid about 2 drams of sulphuric acid are added; no reaction obtained, showing by the absence of berberine sulphate that the berberine was removed by being decolorized.

To portion No. 2 were added the same quantity of sulphuric acid (2 drams), and an abundant precipitate of berberine resulted.

Conclusions: This experiment proves that a colorless preparation of golden seal cannot contain one of the active principles of the drug, viz: Berberine, and any such preparation must depend for its virtues only on such as are represented by one of the other alkaloids of the drug, which can be found in a colorless preparation or solution.

The large laboratory observation, and personal experience in manipulating this drug, has enabled the writer to testify to the chain of very interesting material which attracts the operator from the time the drug enters the laboratory in its crude condition to the time it appears in the market in these various forms represented, and in a future paper he hopes to be able to present the results of investigations and chemical analyses now pending, which may disclose the ingredients which enter into some of the colorless preparations of Hydrastis found in the market, and leave the medical profession to judge of the value of such, as compared with golden seal preparations.

PILL COATING.*

BY M. A. SIMON, PARIS, FRANCE.

In the course of my researches on iron protochloride pills, the question was raised whether the slightly assimilable Tolu balsam coating which was recommended by the Codex to prevent the action of moisture and oxidation on the active element of the pill, did prevent or at least, considerably impede the absorption of the medicament. For this reason Andouard urged the use of cacao butter, previously recommended by Ditters.

No researches bearing on this special point were available, and in consequence I undertook some experiments to settle it, and prepared three grain potassium iodide pills, coating one set with exhausted tolu balsam, and the other with cacao butter; I then swallowed the pills under as nearly as possible the same circumstances on two different occasions, after determining the absence of iodine in the urine. The existence of iodine was determined by two different tests in respect to both pills. The following were the results of my experiments, so made as to be free from elements of error:

First. That half an hour after the ingestion of pills coated with Tolu balsam, the urine showed

*Repertoire de Pharmacie, October, 1886.

feeble traces of iodine and decided evidences within forty minutes.

Second. Twenty minutes after the ingestion of the pills coated with cacao butter, feeble traces of iodine were found in the urine, and iodine was very demonstrable therein after half an hour. It is therefore evident that the action of exhausted Tolu balsam in impeding the absorption of medicaments is not very decided, and it is desirable to modify only slightly the Codex procedure, more especially as this exhausted Tolu balsam is abundant in pharmacies, and is not very much influenced by changes in temperature.

IS THE ARTIFICIAL PRODUCTION OF QUININE FEASIBLE?

Concentrating his ideas into a sentence, the world famous skeptic characterized man as "a fortuitous concourse of atoms." *De facto*, the apothegm is correct. Yet, the attempt to build up a living being has never been successful, except in the imagination of the novelist or poet. The classic story of the marble image which grew to warmth under the blows of Pygmalion's chisel, the weird dream which conjured up the living monster Frankenstein to haunt and finally destroy the student who had created him from the refuse of the dissection room, are familiar to us all. Science, in its plodding, methodical way, still believes, whilst recognizing its utter inability to bestow upon its products the inflammatus of existence, in the possibility of creation by affinity—of producing from valueless chemical elements entities analogous in their character to, if not identical in all respects with, those which are evolved in what men are accustomed to call "the course of nature." As an art springs up and gradually becomes a trade it is observed the materials utilized in its operation are severally subjected to such severe scrutiny, analyzation, experimentation and substitution, that the instincts and efforts alike of manufacturer and chemist, are perpetually on the alert to discover something which shall, in the first place enhance the beauty of the goods marketed, and in the next, cheapen the cost of their production.

Now, one of the most important of the trades, or rather sciences, though perhaps one of the least known to the public, is that of the manufacture of chemicals. The rough and ready system of wholesaling crude products for commercial purposes and dealing with them after the fashion of time-honored trade experience, is long since extinct; the practical knowledge of the buyer of the raw material is now supplemented by the skill of the expert chemist, and it not unfrequently happens that the latter is happy enough to suggest some accessory which will render ductile an apparently hopeless mass, convert waste product into a source of wealth, or make a refractory material "compatible" with its surroundings in the smelter, which when turned out in steel ingots from the converter, will have perished itself in perfecting the utility of the metal, but have utterly destroyed the sulphur and basic impurities, which would otherwise have rendered the ingots unsafe for rolling into rails, or valueless for the use of the mechanician.

But the work of the true chemist never stops. Be he constrained to toil in the interest of manufacturers or to meet the petty wants of a retail drugstore, his mind will ever be running upon equivalents and combinations. The doling out of a placebo in the latter case is on all fours with the doctoring of a refractory blast in the former. The aromatic spirits and cardamoms for the human stomach find their analogy in the charcoal and "terne" with which the basic caldron is fed.

But in most instances the pharmacist or "chemist" only corrects or modifies, but does not create; when he compounds, he habitually loses sight of the true meaning of the word, and takes little heed of aught beyond the careful admixture of the ingredients prescribed by the physician. Science is lost in the craft. Provided the potass is mixed up in the mortar deftly, without explosion, few young pharmacists care in what form the draught reaches the consumer. Still they are observant and apt to note the formulæ they dispense, and therefore evolve specifics and presently become the proprietors of patent nostrums of more or less value; or, obtaining some easily gotten diploma, beam on the world as specialists. How else would Holloway have gained the million dollars wherewith—wifeless and childless—he endowed the vast establishments at Virginia Water, which command the admiration of every visitor to Windsor Castle? How else would the unphilosophical compound of crude opium in powder with glycerin have made W. R. Brett famous in far-off Japan as a healer of chancre, or Charles Finley, of Havana, famous for the artificial inoculation of yellow fever by means of mosquitoes—first made to sting an unfortunate in collapse with *el nigro vomito*, and anon to inject it into healthy veins.

It is to this faculty of observation that the world is said to be indebted for the latest discovery in the laboratory—an artificial quinine. In the belief that this has been effected, so staid an authority as the London Lancet apparently takes stock. The yield of the drug from the outer casing of the cinchona tree, is but some two per cent., though four alkaloids, possessing divers properties as febrifuges are obtained from the different cortices of "Jesuits' bark." The British government has long endeavored to acclimatize cinchona in its Eastern empire, and to systematize its cultivation in its possessions in the Caribbean seas, with but moderate success. The value of the drug for medical uses has long been undisputed, but its former price prohibited its employment in the arts in which it would otherwise take an important place.

By accident it was discovered some ten years ago that a solution of quinine possessed peculiar actinic properties. On the publication of the fact in the Berlin Polytechnisches Blatter, photographic charlatans hastened to avail themselves of the new field for these operations, and "spirit photographs" became the rage. The outline of the "ghost" traced with the solution on the background was invisible to an ordinary observer, but was faithfully reproduced on the negative. The trick created a new demand for quinine, and the attention of German chemists was sedulously turned to the production of synthetical quinia.

In this direction, A. B. Perkins, the English discoverer of aniline dyes, had long labored, but failed to extract from the hydro-carbons which he

otherwise so successfully manipulated, an alkaloid akin to quinine, although Fisher, a noted Bavarian chemist, some five years before had discovered a somewhat analogous principle which had been experimentally used in fever cases with some success.

Since then, as the records of our Patent Office show, sundry sanguine experimentalists have claimed to have successfully achieved the artificial composition of quinine, and found to their sorrow that the sesquipedalian named products yielded by their processes, though resolvable into the formula of quinine, were not the drug itself.

The claim of Cresswell Hewett, that he has succeeded in the attempt, is backed up by his standing as a recognized practitioner of standing, in a country where *causa honoris* degrees fail to obtain credence, and by the fact that the "Atlas Quinine Co.," has been established to introduce it into trade. On the other hand experts in the manufacture of quinine deride the belief in the alleged discovery, asserting that a so-called sample of Hewett's synthetical quinine when tested showed every property of excellent quinine, but that the sample was actually one of the sulphates made by Whiffen, who shares with Howard & Son the reputation for producing the best quinine in the world. Hewett claims that the Howards themselves have analyzed his products and pronounce them equal to any in the market. Here, for the present, the matter rests. If the tale be true, Dr Hewett may be congratulated on the prospect of amassing a fortune through "the accidental breaking of a bottle containing a drug, which formed a combination with another drug with which it came in contact," and ague-stricken sufferers may rejoice that synthesis has enabled us to assuage their aches at a cost of six cents for every ounce of the pest subduer in place of ten — formerly one hundred — times that sum, and have also opened the vista to new departures in pharmaceutical science. W. P. K.

SOLUBLE ESSENCE OF GINGER.*

BY LUTHER F. STEVENS.

The work done by Mr. Thresh, of London, upon zingiberis, led to the query, Why should not water alone be a sufficient precipitant? Detailed experiments eventuated in the proof that it was possible to easily produce by a simple process a truly soluble essence of ginger, readily miscible with any ordinary diluent, and yet representing all the grateful portions and the real therapeutic values of tincture zingiberis, Ph., 1870, and greater than the tincture of 1880 in the same doses and at a less prime cost.

Mr. S. A. D. Sheppard, in answer to a query before the Massachusetts State Pharmaceutical Association (1885), recites the successive attempts at a soluble essence by B. Proctor, of England, or the alum process, Creuse's or the magnesia plan, Riebe's process, or the scrap filter paper method and Thresh's later process, where the resins are precipitated by air hydrated lime. A method used by manufacturers of bottlers' supplies, is to saponify the resins by means of a strong alkali.

None of these are exactly satisfactory; some attempt too much, some are deficient in aroma; some if still hot are open also to the objection of a soapy, chemical taste and smell.

To Mr. Thresh is due the great credit of the discovery of gingerol, suspected by Buchheim but which up to the present time, so far as I can find, has not been isolated.

The oils and resin had been well known since the study put upon the article by our own Proctor when he devised a fluid extract.

Thresh finds in ginger: A hot, pungent resin, (a); a secondary less active resin (b); an active principle, gingerol; a volatile oil; a heavy oil, wax, fat, gum, coloring matters, etc.

We wish to save nearly all of these except the first hot resin. Therefore take of the following:

Fluid ext. ginger	1 pint
Powdered pumice stone	4 oz. avoirdupois
Water	2 pints

To the fluid extract in a half gallon bottle add the pumice, shake well occasionally during several hours, and then slowly add the water in portions of about four fluid ounces, with agitation at intervals during twenty-four hours, then filter, and upon the mass in the filter pour water until three pints are obtained. If the filtrate thus obtained is not quite clear, it may be shaken with a little more pumice, or a talc; the latter, however, must be used with care, as it is a magnesium compound and may produce a noticeable effect upon the delicate flavor.

The finished product is a delightful representative of the ginger, minus the hot taste. It has the full aroma, and taken internally, is a prompt and rapid diffusible stimulant without after-reaction.

* Read at meeting of the Am. Phar. Asso., Providence, R. I., 1885. (Abstract).

ACID STRENGTH OF AROMATIC SULPHURIC ACID.

BY E. W. CLARK, PH. C., ANN ARBOR, MICH.

After it had been determined by careful experimentation, that the U. S. P. standard of acid strength of aromatic sulphuric acid was not too high, five samples were examined by the U. S. P. process by four titrations being made with the following results:

Cubic centimetres of volumetric solution of soda.	Per cent. of Sulphuric Acid.
1.—24.96	13.86
2.—25.49	14.32
3.—32 45	18 03
4.—25.37	14.00
5.—35.36	19.36

None of these samples come up to pharmacopœial requirements. The differences were due to careless preparation.

TAMARIND SYRUP is a good corrigerent for cascara sagrada preparations.

THE RECTIFICATION OF ALCOHOL according to the process of Pictet (Pharm. Cent.) is accomplished by distilling the raw spirit in vacuo at a temperature between 20° and 30°C., as by this means a much smaller quantity of fusel oil appears in the distillate than is the case when distilling under common air pressure.

CAN THE PHARMACOPOEIAL PREPARATION OF FLUID EXTRACT OF ERGOT BE IMPROVED?+

BY E. C. FEDERER, DETROIT, MICH.

Dragendorf, of Dorpat, established on a definite basis the existence of scleromucin, a colloid, and sclerotic acid (a crystalloid). These were at least some of the active principles of ergot. The ecbolins, ergotina and ergotic acid of Wenzell, the ergotina of Wiggers and other alkaloids, acids, etc., were reputed to have the properties of ergot.

There has been much dispute as to the active principles. A liquid preparation containing them all, best represents the true action of the drug. All desirable principles, alkaloids, acids, mucins, etc., are freely soluble in water and quite soluble in weak alcohol. Ergotinine, an alleged poisonous principle, an alkaloid prone to resinification, is soluble in strong alcohol and must be eliminated from a weak alcoholic menstruum. The unstable nature of these water-soluble substances of Dragendorf, Podwissotzski, Wenzell, Bonjean and others, should not be allowed to determine the query's answer unless a general solvent for them be desired to give the necessary stability.

The answer to the query involves the questions: Which combination of fluids results in the most stable fluid extract? Whether it be necessary to first deprive the ergot of its fixed oils; whether it be desirable to use glycerin as solvent or preservative; what is the least quantity of alcohol necessary to insure unchangeability and produce a preparation yielding the most desirable extractive matter. Seven experiments were made, some with ether, some with alcohol, and several with water. The following are the menstrua used; parts by volume:

Specimen Ergot.	Alcohol (parts).	Distil'd water (parts).	Ether (parts).	Glyc'rn (parts)	Acid or Alkali.
1 U. S. P., fat free..	2½	2¾	none	none	H Cl.
2..... " ..	2	5	1	"	None.
3..... " ..	1	6	1	"	Acetic.
4..... " ..	none	6	2	"	"
5..... " ..	2	6	none	"	Weak ammonia
6 U. S. P., with fat.	2½	2¾	"	"	H Cl.
7..... .. "	6	1	"	8	None.

*Abstract of a paper read before the Michigan Pharmaceutical Association.

Acid was used (quantity U. S. P.) only to fix trimethylanine during evaporation of "tailings" or weaker percolates. The temperature should not rise above 170° F. The sp. gr. of the menstrua was taken in each case; and that of the fluid also. When glycerin was used it was taken up in toto in the first part of the percolation, and no more added to the following percolation; otherwise the alcoholic strength of the menstruum was the same as originally; the glycerin was used only as a macerating fluid and calculated to be displaced by that menstruum minus the glycerin; percolation carried on so far that no weighable amount of extractive or appreciable amount of glycerin could be found in the concentrated after-percolate. During dialysis a mold appeared on or under the septum. When this occurred the lower liquid was heated and the quantity evaporated replaced by distilled water. A few drops of alcohol added to the colloid solution effectually destroyed the growth. The dialysate was changed throughout four times. The drug used was deprived of its fixed oil by petroleum benzin, but this does not seem to be a good solvent, as the quantities removed are not equal to those reported by authorities. The oil has a sp. gr. .925, is of a light yellow color, and free from rancidity. The general results obtained are best seen from the following table:

Nos. 1 to 5 incl. fat free, 6 & 7 fatty drug.	Diff. of sp. gr.	Menstrua (parts by volume).	Sp gr. menstrua.	Sp. gr. fluid extract.	Quantity required.	Weight of the dried drug	Weight of residue.	Wt. of 10 fl. dr. of fl. ext.	Residue of Ext. minus glycerin.	Amount of Scleromucin.	Amount of Sclerotic acid	Difference in weight of drug.	Appearance during dialysis, etc.	Effects on fluid extract exposed to light, etc., during the four seasons.
					fl.oz	grains.	grains	gre.	grains.	grains	grains	grains		
1 (U.S.P.)	.070	2¾ water 2½ alc. ac. Hcl.	0.9800	1.000	51	7350 fat free	6015	510	80	9	73	1.335	Dialysed quite slowly; 1st part of liq. brown; no mould nor decomp.	Odor fresh and good; clear deep red-brown; no precip.
2.....	.055	2 alc. 1 glycer. 5 water.	1.000	1.055	55	7350 grs.	6306	560	37	42½	85	1.040	Same as above.	Odor fresh and good; lighter color than above; small am t. gran. precip.
3.....	.080	1 alc. 1 glyc. 6 water. ac. acetic	1.010	1.090	55	7350 fat free	5983	580	86	26	166	1.417	Dialysed more slowly; much darker; becomes mouldy below.	Odor somewhat rancid; color clear, dark-brown; no precip.
4.....	.065	2 glyc. 6 water. ac. acetic.	1.050	1.115	55	7350 fat free	5687½	590	12½	16½	345	1.662	Dialysed faster; deep brown color; no mould or decomposition.	Odor and color as next above; small precip. at bottom: not granular.
5.....	.0825	2 alc. 6 water. ac. acetic.	0.9775	1.060	55	7350 fat free	5687½	580	110 oily residue	33½	114	1.662	Dialysed still faster; dialysate and overliquid turns mouldy and murky.	Odor good, fresh: clear dark red-brown color; no precip.
6.....	.0425	6 alc. 3 ether. 1 water.	0.8250	.8675	55	9600 fatty	7519½	450	230	4	5	1.230	Dialysed very slowly: color pale-brown: no mould nor decomp.	Odor of ether alone; clear dark-red-brown; slight precip.; black or nearly so.
7 U. S. P.	.070	Same as No. 1.	0.9800	1.000	55	9600 fatty	6808. +	560	100	20	109	1.942	Dialysed quite slowly; turns mouldy below; light brown dialysate.	Very good fresh odor; no rancidity; dark-red-brown color; small am'. dark-brown gran. precipt

TABULATED RESULTS OF EXPERIMENTS WITH FLUID EXTRACT OF ERGOT.

From the above it would seem: That glycerin alone with water or with only a small per cent. of alcohol is no benefit so far as keeping qualities are concerned; that to free the ergot from fat is not an advantage as is evident from the residue left from evaporation of ten fl. drams of fluid extract, possibly from some action of benzin on those principles, scleromucin and sclerotic acid, diminishing their quantity or changing their solubility.

Nos. 1 and 7 show the greatest difference in specific gravity of menstrua from the finished fluid extract.

No. 7 shows the greatest difference between the weights of drug before and after exhaustion, although it contains the smallest quantity of oil.

Nos. 5 and 7 give the best yield of solid extract; No. 4 the best of sclerotic acid.

No. 7 gives the richest, most unchanging fluid

extract and happens to be U. S. P. without abstraction of the oil. In the aggregate number 7 is the best and the others *no* improvement on the U. S. P. menstruum. A liquid extract was made after the following process similar to the British Liquor Ergot about a year and a half ago: One pound (troy) was ground fine (30 mesh) and digested for nine hours on a heater at 170° Fahrenheit, with one pint of water and half an ounce of acetic acid (U. S) in a glass vessel kept closed; the mixture pressed through flannel-lined canvas, and the marc was subjected to the same operation three times with cold water only, for half a day each time. The collates were united and concentrated in a large flask submerged in water kept at a temperature of 170° to 180° Fahrenheit, until the liquid was reduced to fourteen fluid ounces. After six hours the resulting liquor was filtered through a wetted filter to separate the oily coagulum and enough water then added to bring it up to fourteen fluid ounces. Two fluid ounces of alcohol were added and the mixture was agitated and afterward filtered through paper. This made a very good preparation readily prepared for hypodermic use by evaporating alcohol.

AMERICAN CARBOLIC ACID.*

BY EDGAR M. HATTON.

Bearing on the above subject, the following has been obtained: In 1866, encouraged by the experiments of Mr. Crookes with reference to the use of carbolic acid in arresting the cattle plague in England; the demonstration of its value as a constituent in a salve for foot-rot in sheep, and of emulsion for use as sheep dip, and other uses in connection with cattle and sheep raising; by its use as a preservative of raw hides, also by the prevalence of cholera in America in that year, a well-known New York firm commenced the manufacture of carbolic acid on a large scale, and have been constant producers since. For a few years they made no crystals for the market.

The reports of the Paris Exposition, held in 1867, show that at that time no acid was made with a higher melting point than 35° C. by any other manufacturer than Calvert, with the exception, perhaps, of the house of Chas. Lowe & Co., an offshoot of the house of F. C. Calvert & Co. Calvert claimed at that time that their acid, melting at about 40° C., was the only acid that would dissolve in twenty parts of water. To-day any good acid with a melting point even as low as 32° C., will dissolve in sixteen to seventeen parts of water.

This is due to the fact that German manufacturers, instead of purifying the acid by mechanical means, came to the true cause of the difficulty, viz: The presence of sulphate of picoline, etc., and removed them by proper chemical processes. Perhaps encouraged by this, in 1874 the New York firm commenced the manufacture of crystal acid for the market.

On the foregoing subject communications were recently addressed to a number of purported manufacturers of carbolic acid throughout the country, but with few exceptions no replies have been received. Considering the manner and style in which the communications were couched, and the way that many have remained unanswered, one is left to infer that the businesses of these parties are not as they would have them seem. Possibly it might have occurred to each that silence on his part might be unnoticed and thereby exposure avoided. In fact, the greater part of the parties claiming to be manufacturers of carbolic acid are either simply distillers of the crude acid oil; refiners of impure acids, mostly foreign; or redistillers of pure imported acids into bottles. This latter process is said to have a decided advantage in adding to the appearance of the crystals. Another class can be added to the above, and while last, we may judge it is not the least, viz., the party with the enterprise to put his own label on another man's product. It frequently follows that those who are enterprising enough to perform this change, charge dearly for their enterprise by adding largely to the selling price. Based on information obtained, there seems to be now only one manufacturer of pure crystal carbolic in America from American coal tar. This firm probably supplies upward of one-fourth of the crystals and more than one-half of the higher grades of liquid acid used in this country, and is thought to be the only tar distillers in existence anywhere who carry the manufacture to final results. They also use much of the crude material produced by other distillers. In Europe the tar distillers are entirely separate from the acid makers. It is reported that another firm contemplates the manufacture of crystals from American coal tar. One other, some two or three years ago, did produce crystals, but has withdrawn this branch from his establishment.

There seems to be room for further manufacture from American tar, as there was last year a surplus of one hundred thousand barrels, and statistics show that the following number of pounds of acid were imported into this country for the several years named:

Year ending.	*Pounds.*	*Doll.*	*Rate of Duty.*
June 30, 1881,	115,691	48,691	10 per cent.
" 1882,	178,842	42,237	10 "
" 1883,	1,394 603	46,601	10 "
" 1884,	177,395	23,198	Free.
" 1885,	461,548	52,288	Free.

This refers to all grades of acids brought into this country, there being no distinction made, as all grades were subject to the same rate of duty. It will be noticed that in 1884 the duty was removed. This disadvantage to the American manufacturers is claimed to have been overcome by the decline, about the same time, in prices of caustic soda and sulphuric acid, both of which are quite material in its manufacture. There is no public record of exports, but there is evidence that shipments are made to the West Indies and South America.

In the form of soap, sheep dip, and kindred substances, large shipments are made to South America and frequently by the way of England. A sudden call of late from Japan quite cleared the New York market of crystals.

It is commonly known that the distillation of coal tar for the purpose of obtaining simply the crude acid is not itself profitable, consequently other ingredients are sought for also. Some of them are produced for the aniline manufacturer,

*Read at the meeting of the A. P. A.

and no doubt the time is not distant when the working of the coal tar oils will be taken up in all of the large cities where gas and coal tar are largely produced, and become a very important industry in this country; then will naturally follow a larger production of crystal carbolic acid, and there is no reason why the foreign article should not be excluded from our market. From further information it is thought without doubt that acids are made in this country, and others perfected from foreign material that fully come up to the Pharmacopœial standard, and in this respect equals any of the imported articles. One party adds, in regard to their product going beyond this standard, "and this is accomplished without using phosphoric or any other acids to maintain its colorless condition."

Samples presenting indeed a handsome appearance have been received, and were sent in good faith to verify the truth of the statements made in regard to the purity claimed for the goods. From one firm a number of samples taken directly from stock and representing the leading varieties made by them, were received.

Following the several numbers will be found a description of the contents of each bottle.

Carbolic acid No. 1, melting point above 36° C.

Carbolic acid No. 2, melting point above 32° C

Carbolic acid No. 3, common crystal, uncertain as to melting point and color.

Carbolic acid No. 4, 90 to 95 per cent. pure phenol, the rest water to keep its liquid at ordinary temperature.

Carbolic acid No. 5, cresol of light color, no impurities save water.

Carbolic acid No. 6, cresol and xylenol, containing some neutral oils and naphthalin, 80 to 85 per cent.

Carbolic acid, 60 per cent. crude.

Also a bottle of creasote.

The crude acid is reduced to any strength desired by the trade, even as low as 10 per cent. with the inferior tar products.

These packages, when sold to the trade, are branded with the percentage of acid contained therein. It can be readily seen how the retail trade and the public generally can be deceived in this crude acid after it has passed into second hands.

It is said that the lower dilutions of crude acids are very freely used, and true carbolic acid has had to answer for the dissatisfaction caused by their use.

Much of it is sold without explanation, and people being satisfied with the tarry smell think they have used acid freely, when really little genuine acid has been made use of. If these lower grades had never been used under the name of carbolic acid, the use of the true acid would be greater, and its reputation better to-day.

The lower grade acids are not imported into this country.

From the foregoing we find that carbolic acid is made in America that can well be depended on as a medicinal agent, that it can be conscientiously used in dispensing; and, since the low grade acids are strictly American products, would it not be well to encourage the sale of the genuine acid, thereby not only doing the public a good service, but also encouraging the manufacturer by allowing him a further profit in converting these inferior grades into pure crystal carbolic acid in which there is much virtue.

HUAMANRIPA.*

BY SR. BIGNON, LIMA, SOUTH AMERICA.

This plant has long had an extended reputation among the Chilians as a specific in diseases of the respiratory organs. It is a synathereon tubuliflorous plant of the genus cryptochaltus. It grows only on the slopes of the Cordilleras, at considerable heights.

The plant, very humble in appearance, has long lanceolate leaves of a greenish color externally. It flourishes during the rainy hot months, from January to May, and then dries up and disappears with the exception of its root. It is very aromatic and resinous, and loses, by drying, the greater part of its essential oil, of which the fresh plant yields a considerable part by simple distillation in water. The resin retains a special aroma, even after the plant has been deprived of all its essential oil. Huamanripa is used in infusions containing 25 parts, by weight, of leaves, to the 1,000 of water. Stronger infusions produce nausea. The infusion has a bitterish, but not unpleasant taste, especially if the plant be made from fresh leaves. Brandy is added to the infusion when it is desirable to take it in large doses without nausea.

Dr. Lapater has found that: (1) Huamanripa in small doses increases the activity of the circulation, accelerates the cardiac movements, increases all the secretions, and especially the salivary secretion; (2), In large doses and in decoction it produces vomiting and abundant perspiration, decreases the pulse and respiration, and lowers the temperature.

Its advantageous influence over diseases of the respiratory organs is incontestably proven by the extended experience with it on the slopes of the Andes. Especially in pleurisy, acute pneumonia and capillary bronchitis with much secretion has it proven efficacious. It has been extensively employed by the aborigines in catarrhs, bronchitis and slight lung hæmorrhages. Chilian and Peruvian physicians have found it to be an excellent diaphoretic, and use it almost universally as a vehicle for antimonial preparations. Its emetic action seems to indicate the existence of an active principle deserving further study.

AZOTOLIDINE formed by the action of nitrous acid on toluidine is the source of anumber of derivatives, all capable of giving a permanent color to cotton or animal fibers without the action of a mordant.

Bolivia, a substance used by perfumers, is made from balsam Peru and oil of Sesame (Pharm. C.). It is prepared by mixing the two substances warmed, and allowing them to stand, when the resin of the balsam subsides. The supernatant light and clear liquid is the so called Bolivia whose manufacture is protected by a German patent.

*Repertoire de Pharmacie, October, 1886.

ABSTRACT OF SOME PAPERS READ BEFORE THE MICHIGAN ASSOCIATION.

OXIDIZED MERCURY IN HYDRARG. CUM CRETA.

BY O. C. JOHNSON, ANN ARBOR.

The mercuric oxide was estimated by dissolving the hydrarg. cum creta in muriatic acid; precipitating in hydrosulphuric acid and weighing as mercuric sulphide. Mercurous oxide was found by dissolving the chalk in hot acetic acid (glacial acid one part, water three volumes), precipitating by muriatic acid, and weighing as mercurous chloride. Specimen 2 which contains ten per cent. oxidized mercury was three years in stock; the others from one to six months. The following results were obtained:

	Mercuric oxide %	Mercurous oxide %	Total oxide per cent.
1	0.25	None.	0.25
2	7.41	3.20	10 61
3	1 28	1.89	3.17
4	0.14	None	0.14
5	0.07	1.23	1 30
6	0.08	None.	0.08
7	0.66	None.	0.66
8	None.	None.	None.
9	0.04	None.	0.04

QUALITY OF IODOFORM IN USE.

BY J. R. CONRAD, ANN ARBOR, MICH.

After a careful examination by treating ten grains in a filter with successive portions of ether till all soluble matter is taken out; the solution being allowed to evaporate in a weighed capsule which is weighed again, eight samples gave the following results:

	Per cent Iodoform.	Residue after Ignition.	Source.
1	96 81	Not weighed.	American.
2	97.39	None.	"
3	98 73	"	European.
4	98 02	"	American.
5	97.89	"	"
6	98 3	"	"
7	98.56	"	"
8	98 41	"	"

All treated with water were neutral to litmus. The filtrate was slightly turbid with silver nitrate but not with barium chloride. Picric acid was not present. With Dr. Brouma's test Nos. 2, 3 and 4 reduced silver.

EULYPTOL.

Eulyptol is a compound discovered by Dr. Schmelts, of Nice (Repertoire de Pharmacie, October, 1886), which has been found of much value as an internal and external antiseptic, and as antipyretic. It has the following composition:

Acid Salicylic	parts,	6
Acid Carbolic	"	1
Eucalyptus Essence	"	1

Eulyptol has a very aromatic odor and burning taste. It is almost insoluble in water, but readily dissolves in ether, chloroform, alcohol and an equal admixture of glycerin and alcohol. It arrests decomposition and putrefaction, and exercises a marked influence over rheumatism and rheumatic fever, but is destitute of the untoward effects of salicylic acid. The dose is from two drams to an ounce, given in divided portions from hour to hour during twenty four hours in the form of cachets. This remedy will be found of decided value in inhalations and fumigations in diphtheria, etc.

PURITY OF SALICYLIC ACID.

"How does the purity of artificial salicylic acid compare with that of the natural?" by E. A. Ruddiman. Eight specimens were examined with the following results: (The manufacturers' names are given because the query involved not the purity of the acid but the value of the test.)

Manufacturer.	A solution of one part salicylic acid in 10 parts of alcohol with a few drops of nitric acid should not become turbid with silver nitrate test solution.	On agitating 1 part salicylic acid with concentrated sulphuric acid 15 parts, no color should be imparted to the latter in 15 minutes.	Fusing points. (Uncorrected thermometer).
1 Merck's Natural	Distinct turbidity	Some color	153°to155°C
2 " Crystallized	No "	No "	141°to145°C
3 " Dialized	" "	" "	143°to145°C
4 " Ordinary	Slight "	Slight "	143°to145°C
5 Schering's "	" "	" "	143°to145°C
6 " Crystallized	No "	No "	145°to148°C
7 Mallinckrodt's	Slight "	Slight "	143°to145°C
8 N Y Salicylic A. Co	No "	Marked "	136°to139°C

A saturated solution in absolute alcohol allowed to evaporate spontaneously, all of them yielded a whitish crystaline residue without color at the points of the crystals. The natural acid when treated with potassium chlorate and then with aqua ammonia produced as much color as the artificial acid, whence it is obvious, the value of this test for phenol is rather doubtful.

"What amount of alcohol is lost in the various methods of recovering it from the dregs of tinctures and fluid extracts?" was the subject of a paper by Joseph Feil, Ph., G., of Cleveland, O., at the A. P. A. meeting. Operating on about 8,000 pounds of a great variety of drugs, with menstrua ranging in alcoholic strength from 20 per cent. to U. S. P. alcohol, and exhausting the dregs in a variety of sectional percolator holding about 500 pounds, distilling the weak percolate and redistilling after an addition of potassium permanganate, the loss was found by Mr. Feil to be about 10 per cent. (exactly 9.8 per cent.) The quantities of drug operated on at a time ranged from 5 to 50 pounds. With better facilities and operating on a very large scale, he believed the loss would not exceed 7 to 8 per cent. On a small scale, conducting percolation as we find it in the average pharmacy, and the amount of drug ranging from 1 to 5 pounds, the loss of alcohol must average 25 per cent. more.

The first distillation always possessed a peculiar odor, which seemed to be the same, no matter what the dregs represented it had been recovered from. He had noticed the same odor also in the first distillate of alcohol in other laboratories.

SOLUBLE SACCHARATES.—These have recently been prepared according to a German journal, by heating a baryta saccharate in solution with a soluble sulphate. The resulting baryta sulphate can be separated from the saccharate formed by the double decomposition, by filtration. In this way ammonia, magnesia, salcium, and alumina saccharates have been prepared.

QUALITY OF CAFFEINE CITRATE IN THE MARKET.

BY OTTO SCHERER, PH. C.

The evidence pro and con on the existence of this salt is about equally balanced. Five samples were examined microscopically. Four could not be distinguished from pure caffeine and no citric acid crystals were detectable. The other samples were granular and without definite structure. On a drop of water being applied to the powder on a slide it rapidly dissolved, but long slender needles soon shot out in every direction. These were caffeine crystals resulting from the decomposition of caffeine citrate, and crystallizing out of caffeine. Following are the results of the examinations:

	1 American.	2 American.	3 American.	4 American.	5 European.	6 Caffeine.	7 Sample prepared by J. U. Lloyd.	8 Mixture of equal parts of caffeine and citric acid.
Solubility in Chloroform.	Only a trace dissolves with water about half.	Entirely soluble	Entirely soluble	Entirely soluble	Entirely soluble	Entirely soluble	Like No. 1.	Caffeine dissolves, citric acid remains.
Reaction of water solution.	Acid.	Neutral	Neutral.	Neutral.	Neutral.	Neutral.	Acid.	Acid.
Fusing Pt.	160°–160°C.	224°C.	224°C.	224°C.	224°C.	224°C.	159°C.	155°C.
Appearance.	Granular White.	Like caffeine finer.	Like caffeine crystalline.	Like caffeine crystalline.	Like caffeine crystalline.	Crystalline.	Granular.	Granular.
Under Microscope.	Granular, no crystals of acid or alkaloid.	Like caffeine.	Like caffeine.	Like caffeine.	Like caffeine.	———	Granular with crystals of acid citric and of caffeine.	Granular, crystals of acid and alkaloid.

Four of these samples were pure caffeine. One was a definite compound; caffeine citrate containing forty-five per cent. caffeine and fifty-five citric acid.

ANTIFEBRIN.

Antifebrin, the new antipyretic, long known under the name of phenylacetomide or acetanilide, has recently been found to have febrifuge properties which are to those of antipyrin as four to one. It is said to be destitute of untoward effects, but the same claim is made for all new drugs, and is intrinsically improbable since the untoward effects of all febrifuges are in direct relation to their potency of physiological action. The drug is made by heating in a retort attached to a receiver, aniline and crystalized acetic acid, then distilling and purifying by repeated crystalizations. It melts at 113° C. and distils over at 295° C. It is very slightly soluble in water, but dissolves readily in alcohol; the addition of water to the alcoholic solution precipitates it. It dissolves quickly in benzine, ether, and the essential oils whence it crystalizes out in long needles. It is a neutral body not affected by sulphuric or muriatic acid, and is with difficulty decomposed by caustic potash. Its formula is that of acetamide with an atom of hydrogen replaced by the molecule phenyl. It is a white crystaline, inodorous powder with a "burning" taste. The dose is from three to fifteen grains. It has exerted a decided influence over rheumatic fever, rapidly relieving pain and reducing temperature. It seems destined to take the place of antipyrin, more especially as Drs. Cohn, Hepp and Kussmaul have not patented the process of manufacture, which, as will be seen, is by no means complicated.

The prescription ownership question has been discussed threadbare so to speak, and remains as unsolved a problem as of yore. One most important phase of the question has received but little attention, and that is the responsibility for the evils resulting from frequent repetitions of the prescription. A woman, for example, has prescribed for her sleeplessness a single dose of chloral hydrate; it does not have the immediate effect the impatient woman requires. She insists on the return of the prescription, sends it to another pharmacist and repeats the performance until she falls a victim to acute chloralism. Who is responsible? According to repeated legal decisions not the pharmacist, but both the public and the prescribing physician would hold him responsible in one way or another, legal decisions to the contrary notwithstanding, and even if he vindicated himself by litigation from calumny as to the character of his drugs, which would be the first charge made, his reputation would be badly damaged and the resulting financial loss would be by no means small. Prevention, not cure of such accidents is needed. It has been suggested that the remedy for such evils is a simple one: Let every pharmacist stamp on every prescription returned to a customer, the date and time it was dispensed. If the customer was in too much of a hurry to wait the proper time for the effects of a remedy, his or her impatience would be curbed by inability to find a pharmacist who would enable her to take doses of dangerous drugs too rapidly for her own welfare.

WINTER DRUG-STORE BEVERAGES.

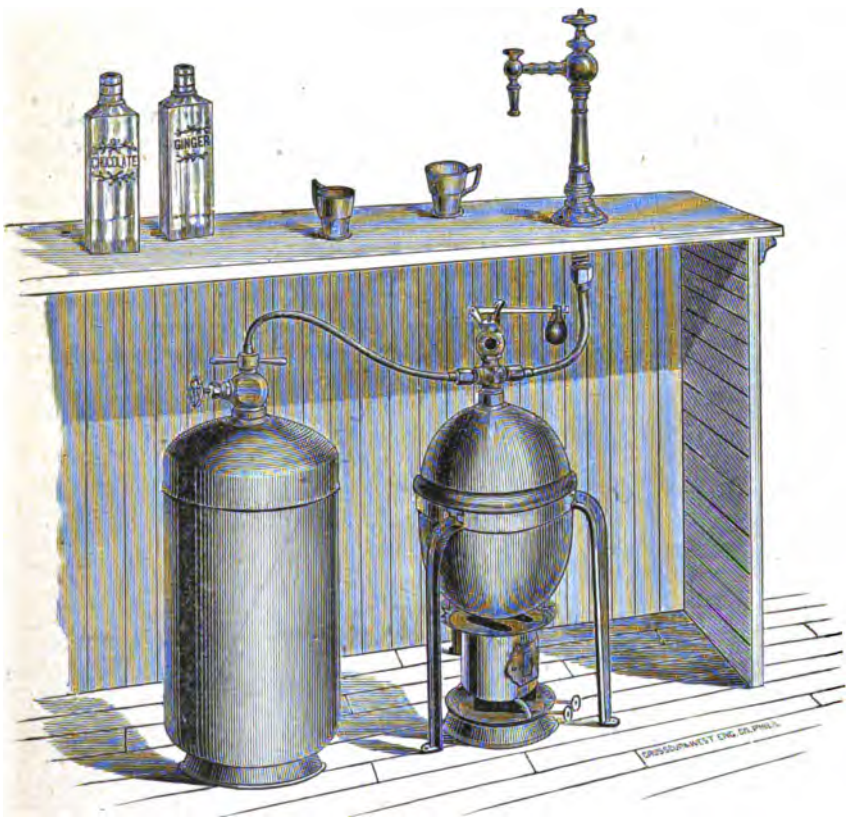
The business of many retail druggists, were their soda fountain abolished, would be like the play of Hamlet with Hamlet cut out. This branch of the drug trade assumes an importance during the summer months hardly less impressive to the army of drinkers than it is vital to the druggist whose sole hope of profit for the season is centered in his magnificent fountain. The modern pharmacy in our larger cities and towns must be orthodox, impecunious or neglectful indeed if it fail in its obligations to the great "soda" loving public with its discriminating taste and its eye for architectural harmony and splendor befitting the fount of the supernal beverage.

Not many years since "soda" was generally regarded as a sort of Sunday-school fluid only fit for the gentlest of the gentle sex, but the fame of the drugstore in this particular now permeates the entire fabric of society, and the variety of non-intoxicating drinks is such as to tempt all but the most abandoned of topers. The drugstore has become *the* resort for cool and palatable drinks, and as the anti-saloon sentiment gathers strength and alcoholic beverages give way to those of innocent qualities and more attractive, not to say respectable, surroundings, the soda-fountain will rise the higher in popular appreciation and proportionally grow in patronage.

It remained for the latter half of this decade, however, to inaugurate a new adjustment of the business. Until quite recently the discouraging feature of the trade was the heavy expense of apparatus and maintenance and the risks of a bad season, very short at best. To make the investment certainly profitable a longer or a continuous season was very desirable, and this suggested an idea which the public when given an opportunity has not been slow to indorse.

If "ice-cold soda" in summer, why not "hot soda" in winter? What more grateful to the shivering street pedestrian, man, woman or child, than a hot and palatable drink drawn at a second's notice from a non-alcoholic fountain away from barroom surroundings which even the majority of good "personal-liberty" business men prefer to avoid during business hours? Acting upon this suggestion, "hot soda" was introduced and has already become a staple beverage in the larger cities.

The apparatus required, in addition to that of the summer kind, is exceedingly simple, consisting of an egg-shaped boiler containing the water and an ordinary kerosene stove for heating. The pressure caused by the generation of steam forces the water up through the draught-tube (see illustration); when the pressure becomes greater than the apparatus would safely bear, say 40 pounds or more, it escapes through the safety valve. This need never occur, however, as the amount of heat can be easily regulated, but it deserves to be pointed out since several accidents have happened due to the boiler not being furnished with a safety-valve, and the apparatus not being sufficiently strong to withstand the pressure of the accumulating steam, bursting with great violence.



The boiler is usually furnished with water by connection with the service pipes or "fed from the city pressure," when no other apparatus is necessary. In smaller towns and cities where water cannot be obtained by pressure, it is furnished by an ordinary soda-water fountain charged to about sixty pounds and connected with the boiler as shown in illustration.

The carbonic acid gas furnishes the pressure to the water, simply taking the place of the hydrostatic pressure in the hydrant water. The carbonic acid gas upon being heated quickly escapes when delivered from the draught-tube, so that even when obtained in this way it is not strictly speaking soda—or carbonic acid water. It nevertheless provides the means of furnishing invigorating and palatable drinks when good syrups are used. These should be kept removed from the water so as to avoid the high temperature of the latter. Coffee and chocolate are the most popular. Beef extract is also largely dispensed as beef-tea in this way, and beef peptone may be easily made by digesting lean beef in an acidulated solution of pepsin, straining from the undissolved sinews, etc., adding some sodium chloride and flavor of celery, to suit. The price of the stove and boiler as quoted by Chas. Lippincott & Co., of Philadelphia, is $20.

Editorial.

As a matter of interest to subscribers and advertisers, the WESTERN DRUGGIST submits the following as its *circulation record for the past five years*, the statement in each case being the average for each issue of its *regular subscription editions*, exclusive of special issues:

1882	2,225
1883	3,000
1884	4,250
1885	6,300
1886 to October	8,100
1886 (this date)	*10,500*

At the present rate of increase our subscription circulation for this edition will aggregate 11,000 copies, which we feel confident is larger than that of any other druggists' journal in the world. The druggists of America evidently believe in a fearless and enterprising journalistic policy. THE WESTERN DRUGGIST from the beginning had no sympathy with moss-grown methods and doctrines, or with a lethargic sentiment toward professional and trade evils, but struck out in an original policy, whose guiding principle at whatever hazard was the true and the progressive in pharmacy, and the honest and right in trade. We deeply appreciate the significant indorsement of this policy by a constituency as peerless in numbers as in intelligence and character.

Inter-State Recognition of Certificates.

The reciprocal recognition of registration certificates by State Boards of Pharmacy is a desideratum having many strenuous advocates. At present, no State Board recognizes the certificates issued by any other. A pharmacist registered in Michigan by examination, however high his rating, is put to the trouble and expense of another Board inquisition if he desires to locate in New York, Massachusetts or Illinois; a druggist duly registered in Ohio hears of a desirable opening in Iowa, but, confronted in advance by the specter of an examination, with the possibility of failure, he declines to take the risk, though feeling keenly the loss of a coveted business prospect. Every large State has its hundreds of registered pharmacists of this class, discontented and hopeless at home, but barred out of other States by the common aversion to the required examination.

The same rule applies to persons seeking situations in States other than the one in which they are registered; a licentiate of the Illinois Board has full authority to engage in business in Illinois, or to take charge of a store for another, but the moment he crosses the line to Minnesota his qualifications to practice wholly disappear, and to make his title clear he must again face the countenance of a sovereign Board. All these things naturally are very galling; they make drugstores hard to sell and hard to buy; they restrict the proprietors in the choice of clerks, and hamper clerks in securing desirable positions.

A man properly registered in his own State, with a practical experience in pharmacy of perhaps a quarter or half a century, thoroughly competent and highly skilled in both the art and science, might naturally expect some recognition of his qualifications in other States, but no, the iron rule cannot relent; the merest sprig of a college graduate is crowned with full honor in almost all States but all other men must bow to the statutory mandate. This is manifestly incongruous and unfair, and the loud protest heard on every hand is certainly not surprising. The injustice is evident; now, what is the remedy, if remedy there be? For the various State Boards to meet and agree to a mutual recognition of certificates? This would clearly be both unwise and impracticable in the absence of stringent safeguards and limitations. If the Massachusetts Board is to recognize the certificates of the New York, the Ohio, the New Jersey, the Missouri, or any other Board it must have a sufficient guarantee that these Boards are as thorough, conscientious and exacting as themselves; in other words, that outside licentiates coming into the State, shall have passed an examination no less thorough than was required of the home licentiates. On the other hand, the New York, Ohio, and all other Boards would exact the same guarantee from Massachusetts.

The reciprocal recognition of certificates without condition or limitation would obviously give the Iowa, the Illinois, or any other Board, an equal voice in the determination of qualifications for registration in New York, as the New York Board itself; the proposition virtually means that every State pharmacy act, and every Board of Pharmacy, shall have jurisdiction in every other State; that, for instance, the "homoeopathic" licentiate admitted unconditionally under an asinine clause of the Illinois law shall be entitled to practice anywhere in the country; the Minnesota or the Virginia doctor who may never have been in a drugstore, and of whom no examination can be required under the pharmacy act of either State, might rush into Michigan, whose law is stoutly barred against such impostors, but which, in such case, would be practically nullified by Minnesota or Virginia. In other words, the Board of either of these States would practically exercise an authority in Michigan not possessed by the Michigan Board itself! Unconditional inter recognition of certificates, in short, would signify the abolition of individual responsibility and authority by the Boards in their respective States, and the possible supremacy in all States of that Board which asked the fewest questions, and was most accommodating in the acceptance of the greatest variety of diplomas.

It is suggested that a National Pharmacy Act would answer all requirements, since the conditions of registration would then be uniform. Aside from the probable unconstitutionality of such an act, it is safe to assert that the druggists prefer to keep this form of legislation in their respective States where they can, through their representative associations, and personally, better and more readily interpret, modify or amend it. A Board nominated as most are, by the druggists themselves, will naturally be preferred to an august Federal Commission of Pharmacy. Moreover, the state of pharmacy varies so greatly in different sections of the country as to require a corresponding adjustment of legislation which can only be secured through local laws.

It would seem that the remedy best adapted to the situation is to be found, as before referred to, in the inter-recognition of certificates by Boards of Pharmacy, subject to specific limitations. The Illinois Board might, for in-

stance, rule that it would consider, and if satisfactory, accept the certificates of any pharmacists registered by examination in another State, provided that a certified copy of his examination papers with other prescribed information accompanied the application; it would, of course, decline to recognize all registered "medical graduates" from other States, and with possible exceptions, all pharmacists registered simply because they were in business when their respective acts took effect. The reciprocity would of necessity, therefore, be limited to corresponding classes of certificates under the various acts. With some such limitations the reciprocal recognition of certificates may possibly be found as wise and practicable as it certainly is desirable. Action by the various Boards on this subject was evidently expected, since nearly all pharmacy laws specifically authorize such reciprocity.

Following in the footsteps of the American Pharmaceutical Association our English friends are "clanking their mortars" to devise a National Formulary.

While in the United States competent workers are receiving the cordial co-operation of leading professional pharmacists and journals, the situation in England is conspicuously different. With nearly all the leading members of the Conference sponsors of some special preparation, controlled by the "discoverer" as a proprietary article, and with the journals defending their rights as representing property, the probability of the incorporation in the British Formulary of anything, except some formulæ for tinctures of new remedies, is indeed doubtful.

One of our English contemporaries in commenting upon the plan, referred to the American Pharmaceutical Association in the following complimentary language:

"It has adopted as canonical all the strictest of pharisaic notions about nostrums, and it is the mark of 'high tone' in the United States to shudder at the thought of anything proprietary in the way of medicine."

What the "pharisaic notions" are, may be understood when later on, in commenting upon the report of N. Y. and B. Formulary Committee at the Providence meeting, it is stated that the work should exclude all purely technical, cosmetic, trivial or noxious articles, and that the Formulary should *include every preparation legitimately belonging to pharmacy*, in professional or popular demand for which the U. S. P. prescribes no standard.

If a desire to devise a method by which such formulæ may be constructed, and if in order to make sure that they shall be in every way reliable and susceptible of satisfactory results they are ratified by representative pharmacists from all over the country in convention assembled, if this be pharisaic or otherwise hypocritical or presumptuous, we would inquire upon what hypothesis the charge is based? How does it conflict with the independence of pharmacy or with the just mercantile rights of pharmacists? The nostrum tyranny in Great Britain is evidently a thing to be treated with deference. It is too beneficent to justify unkind or disrespectful treatment.

In commenting upon the "fallacy" of authorized formulas for proprietary medicines, the English journals report as a frightful example of its inadequacy that nostrums, such as "Chlorodyne" and "James' Powder," are still prescribed as chlorodyni (C. B.) *ver.*, and pulv. Jacobi *ver*, respectively, in the face of officinal formula for their preparation! This to others would simply illustrate the necessity for more zeal on the part of British pharmacists in the perfection of formulas, a task demanding the greater determination by reason of the construction of the Pharmacopœia being in alien hands. Instead of this it may be assumed that the resurrection of a claimant for the Elixir Paregoric, or Paracelsi, of Laudanum-Sydenhami, and a host of other allied preparations, would be hailed with delight.

A serious defect in the draft of the pharmacy act for Pennsylvania is the omission to provide for a permanent minor grade of certificate to be issued to persons whose qualifications may be inadequate for the manager of a pharmacy but are ample for a subordinate position. True, few laws contain a clause of this kind, that of Ohio being, we believe, alone in this important particular, but it is noticeable that the Wisconsin Board has given the suggestion in its act the most liberal interpretation possible, while the Minnesota Board indorses an amendment to that effect, and there is a strong sentiment in Illinois favoring a similar clause. The fact is, pharmacy laws tend to produce a remarkable scarcity of clerks with an advance in salaries of from 25 to 50 per cent.; in some localities in Illinois drug-clerks are as rare as flowers in winter, despite the fact that all who had two years' experience when the law took effect were registered as "assistants" with important privileges. Should Pennsylvania pass an act without a general clause of some kind for the registration of assistants, a drug-clerk famine would unquestionably ensue. These minor certificates would, moreover, prove of great service to druggists and people in German, Norwegian, and communities of other foreign population. Competent foreign pharmacists are at a great disadvantage in an examination conducted in the English language, and a form of minor certificate would prove but a just concession.

Though the WESTERN DRUGGIST is probably as liberally quoted by its contemporaries as any other in its province, sometimes with credit, often without, it feels not the slightest resentment for such use of its columns, but on the contrary confesses to considerable gratification at the implied compliment by its journalistic friends. The papers, opinions and other matter in the WESTERN DRUGGIST have a higher purpose than mere mercantile profit; the information disseminated for the promotion of pharmaceutical science and the influence exerted in the interests of pharmacy and the drug trade are the expression, it may declare with truth and, we trust with modesty, of an associate though more worthy ambition which finds satisfaction in the widest possible extension of such influence through the columns of its contemporaries. We appreciate the courtesy of credit, but we value unfettered periodical literature more; for any pharmaceutical journal to introduce the copy-right gag is an insult to its contemporaries, an outrage on pharmacy and its literature, and an exhibition of vanity as surprising as it is unnecessary.

Some time since we received a query requesting certain information regarding the manipulation of opium. From the tenor of the communication we suspected that the information was desired for an illegal if not criminal purpose, and this suspicion was confirmed upon further investigation by the admission that the opium was to be employed in the manufacture of cigarettes (tobacco). Upon remonstrating with the querist, and pointing out the enormity of the crime, great sorrow was expressed, and the promise exacted that nothing would further be attempted in the matter. Subsequently, to our great surprise, we find the query answered in an Eastern contemporary, the initials of the sender being at once recognized.

It is presumed that the journal in question did not comprehend the intent of the query, and it is only fair to add that the information given was therefore legitimate, but, in view of the known facts, the sender of the query would

do well to proceed cautiously in lending his aid to the manufacture of "pure and sweet cigarettes," loaded with the death-dealing opium.

The tabulated report of remedies used in the dispensing of prescriptions in Illinois contributed during the year, as published in the proceedings of that association just at hand, is a valuable addition to the data of last year. The report comprises thirteen contributions, representing a total of twenty thousand prescriptions, which, added to that of last year, makes a total of over thirty-six thousand prescriptions admirably tabulated for comparison. The reports cover now nearly all sections of the State, and by continuing the work during the coming year the remaining sections may easily be represented, making a complete inventory of the different preparations employed in Illinois. We can but congratulate the contributors and the tabulator for their endeavors, and hope that other States who have not already done so will institute similar work.

The educational scheme outlined by President Greenish, of the British Pharmaceutical Conference, if not practical of application, indicates nevertheless how general is the desire and need for better facilities for pharmaceutical education. In this country the provincial establishment of lecture courses as advocated by Mr Greenish for the present would be out of the question, owing to the thinly-spread population. In this connection we may refer to the lecture course of the National Institute of Pharmacy, which is generally recognized as an important factor in pharmaceutical education in this country, and may possibly solve the problem which is puzzling our transatlantic brethren. It comprises with the lecture course a system of recitations and a constant review of the subjects taught —the essential features of progressive study.

That there is some advantage in the use of Roman rather than Arabic numerals is shown by a case of fatal poisoning by podophyllin recently reported from Maine. A physician wrote for "Resin Podophyllin gr. ss" to be made into four pills. The physician, being accustomed to use Arabic numerals and writing somewhat illegibly, the pharmacist mistook "ss" for 88 and dispensed that quantity, thereby killing the patient. While the pharmacist, of course, should not have dispensed such an enormous quantity of podophyllin without inquiry, the physician should be still more blamed for his illegible writing and for the use of Arabic rather than Roman numerals, which from the seductive facility that they produce in dispensing prescriptions, do not lead to the momentary thoughtfulness which results from the mental labor, slight though it be, which is required in deciphering Roman numerals. A preoccupied man readily deciphers Arabic numerals, but the Roman numerals tend to remove his pre-occupation and hence to prevent mistakes.

Russia, which is the favored country from hydrophobia panics emanate, is also the great source of "sure" remedies for hydrophobia. Dr. Jagell, Frombroom (Vratsch) suggests drop-wort as the latest candidate for medical favor in this particular. All the medicinal agents vaunted as hydrophobia cures have had in common the property of being heart tonics. The fear of hydrophobia depresses the action of the heart of the bitten person. Given soon after the bite the heart tonic restored the heart to its old action and hence cured or prevented the disease. There was therefore no fable in the claims made for these various drugs, but, as in many instances the heart's action became too irregular before they could be applied, each of the remedies fell into disuse, as will doubtless soon be the case with Dr. Jagell s vaunted infusion of drop-wort (spiræa-filipendula).

It is gratifying to note the growing sentiment favoring the abolition of diploma distinctions in pharmacy laws. The Minnesota Board of Pharmacy recommends an amendment to the Minnesota law to that effect, and the draft of an act approved by the Pennsylvania Pharmaceutical Association at its last meeting omits all mention of graduates of any kind as a favored class. The principle is already incorporated in the laws of Michigan and Ohio and, with the exception of local colleges, in that of New York State. Experience teaches that any other condition for registration than an examination by the State Board is demoralizing to all interests involved.

It is to be regretted that the popular press does not more frequently and in equally positive tone expose the "true inwardness" of the nostrum mania as does the Commercial Advertiser, of New York, in the following:

"The mania for getting much for little or for nothing at all, and the mania for dosing one's self with patent nostrums, will apparently always remain impossible of cure. No amount of exposure seems to have the slightest effect. The lottery, the gambling-table and the advertising fortune-maker never wants for victims on the one hand, while the concoctors of evidently worthless patent medicines on the other hand may count their customers by the million, if only the bait be displayed with sufficient skill.

"An example is furnished in the enormous sales of certain nerve foods, which, according to the advertisements, will perform what no combination of extracts, tinctures or elixirs can possibly perform, and which careful analyses show to be nothing more than decoctions of gentian, wintergreen, sassafras, or other similar ingredients. The only possible effect of these nerve foods is a temporary stimulation of the action of the stomach, and the best that can be said of them is that they will probably work no permanent injury. So firm a belief in the decoctions has fixed itself upon the public mind, however, that manufacturers have hardly taken the trouble to deny the truth of the published analyses. They know they can rely upon the gullibility of those who are determined to be dosed any way, and they reap their reward in the continued demand for these wares.

The most unlikely element in a subject for a romance would be a morphine-quinine error, yet the plot of a recent novelette by J. H. Connelly (Bacheller & Co., Chicago,) turns upon such an error. A physician has married for money and, designing to murder his wife, prescribes morphine and slyly substitutes after the morphine has been dispensed a quinine prescription for it, burning the original. Returning after a short time he dumbfounds the pharmacist by informing him of his (alleged) error. Through the superhuman acuteness of a reporter friend of the pharmacist the carbonized original prescription is discovered in the pharmacy cuspidore, and found to read "morphine sulph." in place of quinine. A watch is set on the wicked doctor; his wife's life is saved; the conscientious pharmacist's reputation suffers no damage, but the wicked doctor commits suicide. The idea of using such an error as the germ of a plot is certainly ingenious, but the stupidity of the wicked doctor and the extraordinary preservation of the burnt prescription in the cuspidore are clear evidences of unfamiliarity with pharmaceutical customs. There is, however, something strikingly familiar about the selection of the innocent pharmacist as the scapegoat.

Queries and Formulæ.

WE cordially invite queries for this department on any subject of pharmaceutical interest. Correspondents will give their name and address, but initials only will be printed when desired. It is especially requested that they furnish such information as they may already possess on the subject embraced in their queries. Queries cannot be answered by letter. Communications for this department should be addressed to Editor of the WESTERN DRUGGIST, 69 Dearborn Street, Chicago.

212 LOTIO COCCI CACTI.—J. (St. Louis), desires the formula for the above, written upon the blank of a prominent Chicago firm. This is said to be authentic:

℞ Corrosive chloride mercury..... .....grains ½
Water.... .....fl. oz. 1

Carmine sufficient to impart a red color—"not to be taken."

213. DYNAMITE.—F. S. S. (Jessup, Ia.,), desires to know the composition of this explosive.

There are many different kinds; that most commonly employed, Noble's, is composed of nitro-glycerin mixed with sand and infusorial earth. "Atlas" dynamite is composed of pyroxylon (gun cotton), 25; nitro-glycerine, 50; pyro paper, 10; nitro-starch, 15; and nitro-mannite and sodium silicate, each 1 part.

214. AMMONIUM ACETATE (DRY).—T. C. Joachims (Evansville, Ind.,) desires a process for the dry salt. We do not think that the crystallized salt can be produced by saturating acetic acid (U. S. 36 per cent.) in the usual way with ammonium carbonate, because the concentration required in order to effect crystalization would entail the employment of heat, by which the salt would be volatilized. It may be obtained in a white mass by saturating a strong solution of acetic acid with ammonia gas.

215. LIQUOR PANCREATIS (Same correspondent).—This preparation, to be active, should be prepared from the fresh pancreas (sweet-bread) either of the calf or pig:

Take of

Pancreas, fresh.....oz. 8
Water.... .....fl. oz 16
Hydrochloric acid, dil ....fl. drams 1

Contuse the pancreas completely and macerate it for twenty-four hours in the acidulated water. Express strongly and neutralize the liquid with calcium carbonate (chalk); filter the milky liquid, add one-half its measure of alcohol to it, and let it stand five or six hours. The clear liquid is decanted and rejected, and the residue drained strongly expressed and macerated in a mixture of

Sodium bicarbonate.....grains 80
Water..... fl. oz. 12
Alcohol.....fl. oz. 2

for a few days. When the mixture is filtered and the insoluble residue washed with sufficient alcohol of the above strength to make the solution measure 14 fl. ounces, to this is added:

Glycerin.....fl. oz. 2

or sufficient to make one pint of the finished preparation. Throughout the process care must be observed that the mixture be constantly kept at a temperature below 50° F at least.

From the dry pancreatin the solution can easily be made by dissolving two grains to the fluid dram in the vehicle above indicated.

216. PRESCRIPTION CONTAINING PHOSPHORIC ACID.—A. F. Otis (Three Rivers, Mich.,) inquires how the following should be dispensed:

℞ Strychninæ sulphatis.... .....gr.iii
Acidi phosphorici, diluti.....ʒiii
Ferri et quininæ citratis.....ʒiii
Syrupi zingiberis; aquæ cinnamomi *ana* q. s. ʒxvi
M. et S.

Correspondents should always briefly state what their experience is with any prescriptions or formulas about which inquiry is made. In this case we might have dispensed the above without any change taking place, and so might any number of pharmacists. Upon consideration, however, we conclude that the precipitate was formed because of the use of phosphoric acid made from glacial acid and not from phosphorus direct.

As is well known, the glacial acid and solutions made from it, always precipitate with solutions of iron salts. Chiefly for this reason it was discarded in the U. S. P. '80. By the employment of pure dilute phosphoric acid (U. S.) a clear solution will result, unless possibly some quinine should be gradually thrown out of solution. This can be prevented only by the addition of alcohol in sufficient proportion.

217. LACTOPEPTIN VS. PEPSIN.—H. W. Booth (West Branch, Mich.) desires to be informed as to the relative difference between lactopeptin and saccharated pepsin as digestive agents.

There is considerable difference in the composition, lactopeptine being an attempt to represent in a concentrated and convenient form all the ferments upon which the process of digestion is based. This process may be best illustrated if we liken the course food takes in the system to an upright tube divided into three distinct parts, the first and uppermost representing the salivary tract where all starchy food and cane sugar are acted upon by the secretion, ptyalin, and converted into dextrose, etc.; the second division representing the alimentary tract, the stomach. Here the peptic fluid secreted by the glands, rendered possibly in a nascent state by the acid in the stomach, attacks all nitrogenized food, that is meat, egg, milk, and the gluten in bread, converting it into a readily assimilable form termed peptone. With a large portion of substances used for food their decomposition is here completed, but another constituent of equal importance in the animal economy is fat Fat, as is well known, is the most difficult substance to change into an assimilable form, and for this reason, when it reaches the third and large division representing the duodenum, it is attacked by a complex substance termed pancreatin, which not only possesses the property of rendering fat assimilable, but also shares the property of the two first mentioned substances in acting upon both starch and albumen to a limited extent. This seems to be a provision of nature to prevent any waste of material which might otherwise result—a fitting climax to this wonderfully devised laboratory of nature.

We are led into this explanation because only by a thorough understanding of the whole of the economic process can a correct opinion upon the value of digestive agents be based.

With regard to the compound in question, the formula indicates that it is prepared to conform with the above

facts, and that its value, therefore, is as superior for its purpose to pepsin alone as beef peptone is to beef extract. There are, of course, indications in which one is of more value than the other, but its discussion is not within our sphere.

218. PILL QUININE, ZINC AND IRON VALERIANATES.—Chas. M. Adams (West Medway, Mass.) inquires how the following may be prepared so as to make a small pill, and the best method for coating them:

℞ Quiniæ valerianatis
Zinci valerianatis
Ferri valerianatis *aa*..... ʒi
Fiat massa et div. pil. No. LX.....

The only method of coating practical of application in the pharmacy is that with gelatin. For this reason the excipient employed should not contain glycerin, but glucose, syrup or mucilage of acacia. For further information see paper of Prof. Patch, of Boston, in W. D. for September.

219. NORWEGIAN REMEDIES.—P. L. Christenson (Crookston, Minn.) desires the formulas for the following:

"*Sundheds Salt*." The following is sold by Bloch & Co., Copenhagen:

Sodium bicarbonate.....	ounces	14
Magnesium carbonate.....	"	1
Eleosacch. peppermint.....	"	1

Mix and dispense in quinine bottles.

"*Gron Olie*" is the *oleum hyoscyami infusum*, or *cocti* of the Scandinavian and German Pharmacopœias; it is prepared as follows:

Take of Hyoscyamus.....	ounce	1
Alcohol..	"	2

Contuse the hyoscyamus with the alcohol in a bright iron mortar; macerate for twelve hours in a closed vessel, then add olive oil fl. oz. five, and digest upon a water bath until all the alcohol has evaporated; decant the clear oil and filter.

"*Kanel Draaber; Sode—Sure.*" The first is tinctura cinnamomi, 20 parts of the bark in 100 diluted alcohol. "Sure Kanel Draaber" is *Tinctura Aromatica acida*, essentially similar to aromatic sulphuric acid.

"*Barne Pulver*," for internal use. This is Pulvis Magnesiæ cum rheo, prepared as follows:

Take of Oil of fennel.....	1.
Sugar.....	100.

Mix; then add

Rhubarb, powder....	100.
Magnesium carbonate	100.

Mix them thoroughly. It is very similar to though more agreeable than our compound powder of rhubarb.

"*Beska Draaber*"—Tinctura Absinthii, prepared from 20 parts wormwood in 100 parts diluted alcohol. The compound tincture containing 2 parts each of blessed thistle, galanga, orange berries and 8 parts wormwood in 100 parts, is sometimes dispensed.

220. SWEDISH REMEDIES.—F. A. Golden (Marshfield, Ore) desires the formula for the following in great demand among the Scandinavian population:

"*Riga Balsam.*"

℞. Aquæ aromaticæ	75
Spiritus salvia	25
Tincturæ croci.....	5
Mix.	

Aqua Aromatica is prepared as follows:

℞. Spiritus lavandulæ	75
Acidi acetici dil	25
Mix.	

Hjertstyrkande Droppor is *Tinctura Lavandulae Aromatica*, nearly identical with our compound spirit of lavender.

Preserverande droppar and another remedy which translated would be "head-heart drops," we are at present unable to furnish. Perhaps some of our readers may explain them.

221. PRESCRIPTION QUERY.—E. H. Greeley (Manhattan, Kan.), asks if the following can be prepared so as to afford a clear mixture:

℞. Tincturæ krameriæ.....	ʒii
" opii.....	ʒiv
Aquæ camphoræ.....	ʒiss
" menthæ piperitæ.....	ʒi
M.	

The precipitation may be due to either of two causes: (1.) that the kramerio-tannic becomes insoluble in the watery mixture, or (2) that the morphine in the opium was precipitated by the tannin. In either case the precipitation may be prevented by increasing the amount of alcohol, or, what would be less objectionable, by the addition of 1 fl. ounce of glycerin, the waters being correspondingly reduced. The report that it has been dispensed clear has no weight in view of the variability of strength in the tincture opium as well as that of krameria

222. SYRUP OF STYRAX.—Jno. T. Johnson (Fergus Falls, Minn.) desires the formula for the above.

In view of the absence of any authoritative formula we recommend that the syrup be prepared by the method officinal in the U. S. P. for syrup tolu. Owing to the similarity of the tolu and styrax a preparation of the same strength would no doubt be found perfectly satisfactory.

223. LIQUID PEPSIN.—John A. King (Lake Butler, Fla.) Liquid or solution of pepsin is officinal and the formula is given in the U. S. P.

Take of	parts	
Pepsin, sacch	40	drams 5½
Acid, hydrochloric.....	12	" 96
Glycerin	400	troy oz. 6¾
Water	548	to make 1 pt.

Dissolve the pepsin in the acid and water, filter, and add the glycerin. Pure pepsin is treated in the same manner but in reduced quantity.

224. LOCO WEED.—C. D. Williams, (New Haven, Conn.) Loco weed (Astragalus crotolariæ) has caused a marked form of insanity with ideas of persecution, false hearing and false sight, when accidentally eaten by man. It frequently causes insanity in horses and cattle. The insanity differs from the toxic delirium of belladonna in being of longer duration and more intense character. As a rule the patient recovers. Epileptiform convulsions sometimes result, but these are of a temporary character. The drug has not been pharmacologically investigated.

225. WARBURG'S TINCTURE.—W. H. Parks (Nelsonville, O.) This preparation may well be termed a poly-pharmaceutical compound. As will be observed it is a kind of compound elixir of quinine, the bitter and resinous ingredients being supposed to add to the efficacy of the alkaloid. The following formula is said to be very similar to the

original introduced by Dr. Warburg, a British surgeon in the East Indies:

Take of	
Aloes, Socot	ounces 2
Rhubarb, angelica, each	drams 4
Confection damocrates	" 4
Elecampane, saffron; fennel, prepared chalk, each	" 2
Gentian, zedoary, cubeb, each	" 1
Agaria, camphor, elect. myrrh	" 1
Quinine sulphate	" 10
Alcohol, diluted	pints 4

All the solid ingredients, except the quinine in coarse powder are digested in the diluted alcohol for 12 hours, expressed, and the liquid strained. The quinine is then dissolved by the aid of heat and the mixture when cool is filtered. The dose is stated to be one-half fluid ounce.

The electuary of myrrh is prepared as follows:

Take of in powder	
Myrrh	dram 1
Catechu, calamus, each	" 2
Oil of cloves	m. 15
Honey of roses sufficient to make	ounce 1

The formula for confection damocrates is too voluminous for publication; it may be found in any old work on pharmacy. Theriac may be substituted for it to advantage.

226. KENDALL'S SPAVIN CURE.—Henry F. Pound (Perris, Cal.) We republish the following originally taken from the New Idea:

Take of	
Oil rosemary	min. 25
Oil turpentine	fl. dr. 14
Camphor	drams 8⅔
Water	fl. oz. 2⅓
Alcohol	" " 14
Iodine	grains 150

Dissolve the iodine in a little alcohol and add it to the other ingredients previously dissolved in the alcohol and water.

227. KING'S NEW (?) DISCOVERY.—Wm. J. Whiter (Goldendale, W. T.) The following is said to be the formula taken from the "New Idea;" how new the discovery is, our our readers may judge for themselves:

Take of	
Pine tar	grs. 60
Sugar, granul	" 960

Mix intimately by trituration in a mortar, add 1½ fl. oz. dilute alcohol and then sufficient syrup or glucose to make 5½ fl. ounces; add the mixture to the following contained in a bottle:

Oil anise	grs. 2
Chloroform	" 60
Fl. ext. wild cherry	" 96
" " ipecac	" 48

Mix thoroughly; let stand several hours, then strain.

228. DOBELL'S SOLUTION.—S. E. Neal (Green Ridge, Mo.): The following is the formula (taken from the W. D., p. 248, 1885), as originated by Horace Dobell, of London, E.:

Acid carbolic	grains 30
Sodium bicarbonate	grains 60
Sodium borate pulv	grains 60
Glycerin	fld. ounce 1
Water sufficient	fld. ounce 16

Make a solution. It is largely used as a wash in catarrhal affections.

229. COLORLESS SOLUTION OF HYDRASTIS is a solution of hydrastine (the white alkaloid) in glycerin and water. We publish a paper by Mr. Irwin upon the subject in this issue.

230. ELIXIR STILLINGIA WITH LACTOPEPTINE. S.M. Philips (Clearwater, Minn.). We do not know the strength of the above, but suppose that an elixir of stillingia of ordinary strength will answer, containing two grains of lactopeptine to the fluidram. The following formula is recommended:

Fl. ext stillingia	fl. oz. 2
Lactopeptine	grs. 256
Magnesium carbonate, alcohol and elixir, sufficient to make	fl. oz. 16

To two drams magnesia, triturated in a mortar with a little alcohol, add the fluid extract, and then sufficient elixir to make 8 fl. oz. of liquid when filtered. Dissolve the lactopeptine in 8 fl. ounces of elixir, mix the solutions, and after standing some time again filter. Whether this will yield a preparation similar in strength and taste to the original we cannot say, having no knowledge of the article, but the above formula indicates the method to be employed.

CHLORODYNE FORMULAS.

In response to our request in the October number (W. D. p. 380) communications have been received from the following, giving formulæ in use in their respective localities:

CALIFORNIA.—Sylvester A. Palmer, Sacramento. LOUISIANA.—N. Nelson, Shreveport MICHIGAN.—Nelson Hower, Mendon. NEW YORK.—B. L. Maltbie, Randolph.

Mr. Maltbie's communication is the substance of a thesis presented to the Albany College of Pharmacy in 1885. We publish it in full in this issue, as it is a very able review of the subject. The other communications indicate an absence of uniformity in the formulas in use. In our next we shall present a tabular exhibit of these differences, and in the meanwhile we should be especially pleased to receive a report by any of our readers on formulas in use in the following localities, viz.: Omaha, Minneapolis, St. Paul, St. Louis, Cincinnati, Detroit, Portland, Me., and Atlanta and Richmond. The general invitation is of course, still extended. Address communications to C. S. Hallberg, care this office.

231. ANTIFEBRIN.—Wm. N. D——— (St. Louis), asks fi "antifebrin" is a new compound, and if so, desires to be informed how similar bodies are prepared synthetically.

Antifebrin is merely a fancy name bestowed upon a compound designated chemically as phenylacetamide, or acetanilide. Aniline, $C_6H_5NH_2$, is a strong base combining with acids, for example, HCl, forming the hydrochlorate. The hydrogen atom is also replacable by alcohol or acid radicles, forming alcohol and acid anilides respectively. The substance under consideration is produced by replacing an H atom by an acetyl residue as follows:

$C_6H_5NH_2$	$C_6H_5NH(CH_3HO.)$
Aniline.	Acetanilide.

The union is effected by boiling aniline with excess of glacial acetic acid for some time in a vessel furnished with a return condenser. The acetanilide is then distilled over and obtained pure by crystalization from benzol or boiling water.

232. TINCTURE BENZOIN FOR FACE WASH.—J. C. Webber (Scandia, Kan)., asks how a tincture of benzoin may be prepared which will not precipitate with water.

Proceed in the same manner as for soluble essence of ginger, in Mr. Stevens' paper (page 407), employing tincture of benzoin (U. S.) in the same proportion as fluid extract of ginger is there directed.

233. G. (Columbus, Ohio) asks if anilin colors when treated with nitric acid become indelible. We cannot say. Dr. J. D. Lisle, Springfield, Ohio, should be an authority.

The formula for elixir iron quinine strychnine phos. you mention by name is not known to us. In what respect does it differ from Prof. Diehl's or others published?

234. OBLONG PILLS.—Subscriber (Herkimer, N. Y.): Oblong pills do not require any special machinery for their manufacture. The ordinary pill machine, with the grooves shaped elliptical instead of round, will answer very nicely. The other portion of your query is answered elsewhere. (See No. 218.)

235. PURIFIED STORAX.—John D. R. (Cincinnati, O.) inquires how storax may be purified. The following method is recommended in Pharm. Central. Take of

Storax	grams	1,000
Ether	"	750
Sodium sulphate, dried	"	100

Macerate the storax in the ether until dissolved, add the dried sulphate of sodium and thoroughly agitate the mixture. Allow to stand, and remove the layer of salt solution which separates, to the bottom; when complete separation has taken place, filter the ethereal solution, distill off the ether in a suitable apparatus and remove the resulting purified storax.

236. MIXED BIRD SEED.—L. Trautman, Jr. (Read's Landing, Minn). The mixed bird seed on the market contains the following, in about these proportions: Rape, 1 part; hemp, 1 part; millet, ⅓ part; and canary, 2⅓ parts. The boxes and labels may be obtained from any box manufacturer.

Jas A. Curran & Co. (Denver, Col.) are respectfully informed that "a full line" of pastes and mucilages were published in last month's W. D. Formulas for cements have appeared recently too often to warrant any more this year.

PILL MACHINE—VOMACKA'S.—Geo. D. Sanders (Columbus, Wis.): The pill machine illustrated in the W. D. last month is manufactured by Ad. Vomacka, 13 Brentegasse, Prague, Bohemia. We do not know its cost or its rellability, but, judging from the reputation of the manufacturer, there can be no doubt that it would prove satisfactory.

ELIXIR PURGANS.—A Reader (Harrodsburg, Ky.): This elixir is a preparation made by Eli Lilly & Co., Indianapolis, Ind. The published formula may be obtained from them.

We have received a number of specimens of illegible prescriptions. One from Mr. J. M. Blount, Huron, Dak., is well worthy a place in an art gallery, but was not in a form admitting of reproduction. It called for Pill. Antidyspeptic Fothergill No. 30.

S. L. Mitchell (Beaver Dam, Ky.): "Lloyd's Elixirs" is the most complete work on elixirs. It may be had by applying to the publishers of the W. D.

L. W. K. (Cincinnati, Ohio) and others are informed that unless full name and address are given their queries will not be answered. In replying we always omit names, when so desired.

A CORRECTION.—Dr. A. J. Gardner (Grand Rapids, Ohio) kindly corrects an error in the September number (query 184, p. 341), wherein it is stated that in sizing a gold-leaf label before varnishing "the glass was destroyed and metal looked like old coffee." It should read, the *gloss*, etc., and the metal looked like old *copper!*

NOTES TO THE EDITOR.

HAAS' HOG REMEDY.

[To the Editor.]—On page 341 in the September number of the WESTERN DRUGGIST the formula of Haas' Hog Remedy is requested. The Report of the Department of Agriculture, Washington, D. C., 1880, page 144, gives the following as the probable composition of this vaunted "remedy:"

Powdered soap	10 parts.
Potassium carbonate	5 "
Red ochre	12 "
Chalk	50 "
Quicklime	10 "
Calcined magnesia	13 "

In the year 1883 the writer examined a sample of the powder taken from a lot obtained direct from Jos. Haas, of Indianapolis, Ind., and deduced the following formula, which yields a product very nearly if not quite identical with the original in cost of production as well as in composition:

Lime, slaked and dried	50 parts.
Burnt clay or red ocherous earth	15 "
Cayenne pepper	2 "
Coke	2 "

Well mixed and ground sufficiently fine to pass through a No. 40 sieve. Yours respectfully,

C. W. TEETER.

TOULON, ILL., Oct. 25.

DOSE AND PRICE LABELS.

[To the Editor.]—In reply to Mr. Z. L. Martin in your last issue, allow me to state that the second edition of my Dose and Price Label Book, which will be published about January next, will meet, no doubt, his views. The labels contain (samples inclosed) the officinal and common names of all drugs and preparations, with the formulas for the latter, minimum and maximum doses, in common and decimal weights and measures, medical properties, solubility of chemicals in water and alcohol, marks of weights to attach the purchasing and selling prices, and heavy black lines, with one or more exclamation points, for all poisonous articles It will contain nearly twice the number of pages of the first edition. C. L. LOCHMAN.

BETHLEHEM, PA., October, 1886.

SODII BICARBONAS.

Bicarbonate of Sodium.

Natrium Bicarbonicum, G. P.

DOSE.—5, 15 to 30 grains (0.3—1.0—2.0 Gm.)

The larger doses are suitably taken in carbonic acid water, and required in acute rheumatism. Soluble in 12 parts of Water; insoluble in Alcohol. 20 grains neutralize 16.7 of Citric Acid, or 17.8 of Tartaric Acid.

℔ ℔ ¼ ℔ oz.

Extractum Podophylli Fluidum,

Fluid Extract of Podophyllum.

With 8 parts of Alcohol to 1 part of Water, from the rhizome and rootlets of *Podophyllum peltatum*, L.

DOSE.—8 to 15 minims (0.5—1.0 C. c.), laxative; 20 to 30 minims (1 25—2.0 C. c.), purgative.

℔ ℔ ¼ ℔ oz.

MICA LABELS.

[To the Editor.]—Answering query No. 211 in regard to mica labels, will state that we have used mica labels on oil bottles for seven years, and have found them in many respects superior to glass labels. We use a stiff paste made of dextrin and diluted acetic acid.

VINKE BROS.

ST. CHARLES, MO., Oct. 29.

[On this subject W. Tyndall, Dakota, states that he has

used mica labels for all his shelf bottles for a period of eighteen months with perfect satisfaction.—Ed. W. D.]

MEDICAL NOTES.

Naphthalin given internally causes very serious bladder troubles.

To Give Castor Oil to Children.—Place the dose on a table and tell the child not to drink it.

Kohomba Oil from the Melia azerdarach has been found of value in the treatment of swollen glands.

Ityto, an African plant of the genus clematis, is said to yield good results in the treatment of bots in horses.

Protacein is a white crystalloid substance found in Lencadendron capense, and possessed of decided antipyretic properties.

Pulsatilla in Swelled Testicle.—Dr. Martel (Bull. Gen. de Therap.) has obtained good effects from twenty-drop doses of tincture of pulsatilla in testicle swelling.

Tincture Iron Perchloride in Gonorrhœal Rheumatism.—Three-drop doses of iron perchloride tincture four times daily yield good results in rheumatism from gonorrhœa.

Apocynum Cannabinum in Sciatica.—Dr. Kilgour (Eclectic Medical Journal) finds that two-drop doses thrice daily of tincture of apocynum cannabinum markedly benefit cases of sciatica.

Soda Sulphite in Fermentative Dyspepsia.—Dr. Livezey (Medical Summary) has found 10-grain doses of soda sulphite thrice daily of great value in the treatment of dyspepsia accompanied by belching.

Untoward Effects of Potash Permanganate.—Dr. Brock (Boston Medical and Surgical Journal) has had severe stomach irritation produced by the administration of potash permanganate in ordinary doses.

Ammonia Muriate and Squills in Scrotum Dropsy.—Dr. Livezey (Medical Summary) has had good results in scrotum dropsy from the use of equal parts of a watery solution of ammonia muriate and vinegar of squills.

Bryonia Dioica in Hemorrhage.—Dr. Z. Petersen (Spitalul, March, 1886) has had good results from the internal administration of bryonia dioica in decoction (20 grains to the litre of white wine) in all forms of hemorrhage.

Emulsion of Cod-Liver Oil in Scalded Throat.—Teaspoonful doses of a mixture of cod-liver oil and lime water equal parts have given good results in the treatment of scalded throat produced by inhaling steam from a teakettle spout, a frequent practice among children.

Black and Red Pepper in Malaria and Diarrhœa.—Dr. W. A. Hammond (Journal of Reconstructives) has known severe cases of diarrhœa to be cut short by scruple doses of cayenne pepper. Black pepper frequently cuts short malarial attacks, and is a desirable condiment in all typhoid and malarial conditions.

Soda Anisate, a compound of soda and anisic acid, the last obtained by oxidation of anise essence and an isomeric product with methy-salicylic acid, has been found by Curci to have all the antipyretic properties of salicylic acid without its defects. All the salts of anisic acid are soluble in water. The dose of anisic acid is the same as that of salicylic.

Quinine in Whooping Cough.—Dr. Campbell (Canada Medical Record) strongly recommends the use of quinine in whooping cough. He gives the quinine in 2 to 40 grain doses, dissolved in pure water by aid of sulphuric acid, every two hours. In case the first few doses are vomited, the dose is at once repeated. The result of this treatment is rapid reduction of the number and violence of the paroxysms.

Treatment of Iodoform Poisoning.—Dr. E. G. Cutter (Boston Medical and Surgical Journal) says that with the first symptoms of poisoning, potash acetate or citrate should be given by the mouth at frequent intervals, the wound washed from the iodoform with pure water, and then with an alkaline carbonate solution, after which powdered magnesia is dusted on.

Conium in Sleeplessness.—The Medical World says: "Drachm doses of fluid extract of conium allay and often cure sleeplessness." While there is no doubt that conium is an excellent remedy in sleeplessness, since it calms motor excitability, the dose above given is enormous, and in the great majority of cases outside of insane hospitals would prove fatal.

Treatment of Gonorrhœa.—A recent discussion in the San Francisco Medical Society (Western Lancet) resulted in a general expression of opinion that during the acute stage injections were injurious, and that internally salines and diuretics should be used. Later antiseptic injections of potash permanganate and copaiba and sandalwood internally were advisable.

Modified Compound Licorice Powder.—Dr. Oxley, Liverpool, Eng. (Lancet, Oct. 2, 1886,), in order to prevent the griping in infants sometimes resulting from the ordinary compound licorice powder, proposes the following modification:

Senna, licorice root, each	2 parts.
Anise fruit, sulphur, each	1 "
Sugar	5¾ "
Ginger	¼ "

Rhubarb for Thread Worms.—S. S. Martin (Practitioner, October, 1886) finds that the internal use of the following in combination with injections of soap suds yields good results:

℞ Tincture of rhubarb	3 minims.
Magnesium carbonate	3 grains.
Tincture of ginger	1 minim.
Water	to one drachm.

This is to be taken twice to thrice daily.

Bryonia Alba in Acute Pleurisy.—The following (Cleveland Medical Gazette) has been found of value in acute pleurisy:

℞. Tinct. opii deod	ʒss
Tinct. bryonia alba	ʒss
Vini ipecac	ʒiss
Syr. zingiberi	ʒiss

M. Sig.—One teaspoonful every hour.

Tincture of Strophantus.—The strength as recommended by an English authority is 2½ av. ounces of the seed deprived of fat by means of ether, then extracted by percolation, with sufficient rectified spirit to make one pint. As the pint is "imperial" measure, the proportion in U. S. measure would be two ounces to one pint of alcohol.

Saddler's Wax is prepared, according to the Wiener Drug. Ztg., as follows:

(1.) Wax, 4; rosin, 1.
(2.) Wax, 10; rosin, 2; turpentine, 1.
(3.) Wax, white, 8; olive oil, 1; rosin, 6.
(4.) Wax, white, 24; rosin, 12; tallow, 4; olive oil, 1.

The above are the kinds mostly in use. The ingredients are simply melted and stirred together until cool.

FORMULAS.

(From Dietrich's Manual)

SPONGIA CERATA. (Waxed Sponge.)

A quantity of fine textured sponge is thoroughly washed in water, then macerated for twenty-four hours in a 10 per cent. solution of hydrochloric acid, entirely freed from acid by washing in water. The sponge is macerated in water containing 10 per cent. ammonia water for twenty-four hours, and thoroughly washed in water. The dried sponge is then dipped in melted wax until saturated, covered with parchment paper and flattened out by compression between heated plates until cool; the superfluous wax is then cut off, and the waxed sponge preserved for future use.

SPONGIA COMPRESSA. (Sponge Tents)

Purify fine textured sponge as for waxed sponge, and while still moist cut into sections three by one and one half inches; thoroughly entwine each piece with thread to form thin cylinders, and dry them. The covering should not be removed unti the sponge is wanted for use.

SPONGIA GELATINATA. (Gelatin sponge.)

Gelatin	grams 100 0
Water	" 300 0
Glycerin	" 5 0

Purified and well-washed sponge is cut into lengths as for sponge tents, and saturated with a solution of the above ingredients; then allowed to drain and entwined with thread previously dipped in tallow. Dry each cylinder and remove the thread as soon as possible to prevent adhesion.

STILUS MENTHOLI. (Menthol Pencil.)

Pure menthol is fused and poured into tin moulds having about the form of an ordinary thimble, in which it is allowed to crystalize at a low temperature, usually by placing them in an ice chest for twelve hours. The menthol cone is removed from the moulds, attached to a handle and preserved in a convenient form for use. A good cone should be made only of pure menthol, as even so small a quantity as 2 per cent. of thymol will render them greasy.

STILUS ZINCI SULPHO-CARBOLICI UNGUENS 5 PER CENT. (Sulpho-carbolate of zinc pencil.)

Zinc sulpho-carbolate	gm 5.0	Colophony	grams. 5.0
Soap, powdered	" 15 0	Yellow wax	" 40 0
		Olive oil	" 85.0

MUSTARD PENCIL.

Menthol	grams 85.0	Spermaceti	gm 10.0
		Mustard oil, ethereal	" 5.0

Fuse the menthol and spermaceti and add the oil of mustard.

SPECIES HAMBURGENSIS. (Hamburger Thee.)

Senna leaves, cut	gm 60 0	Coriander seed	grams 13.0
Manna	" 25.0	Tartaric acid	" 2.0

Bruise the manna, sprinkle the powdered tartaric acid over it, and mix with the other ingredients.

SPECIES AD LONGAM VITÆ. (Swedish Bitters.)

Aloes	grams 50.0
Rhubarb, Gentian, Zedoary, Galangal, Myrrh, Saffron, of each	" 5.0
Agaric, Theriac	each " 10.0

Grind the drugs to a coarse powder and mix them thoroughly.

SPECIES ANTIASTHMATICÆ. (Asthmatic Powder.)

Stramonium leaves, cut	grams 1,000.0	Sodium nitrate	gms. 13.5
		Potassium carbonate	" 1.5
Alcohol	" 200.0	Water	" 1650.0
Potassium nitrate	" 135.0		

Moisten the stramonium leaves with the alcohol and allow it to remain tightly packed in a well covered vessel for twenty-four hours; dissolve the salts in the water, and impregnate the leaves with the solution; again pack them tightly as before, and allow to remain for twenty-four hours, then remove them and dry carefully.

SPIRITUS LUMBRICORUM. (Rainworm Spirit.)

Solution crude ammonium carb	grams 3 0
Dilute alcohol	" 97.0

Mix and filter.

SPIRITUS FORMICARUM COMPOSITUS.

Spirit of formic acid	grams 98.0
Oils of turpentine and lavender	each " 1.0

Mix; allow to remain a few days, and filter.

SPIRITUS DISINFECTARIUS CARBOLISATUS.

Carbolic acid	grams 20.0
Oil of citronella	" 1.0
" sassafras	" 1.0
Dilute alcohol	" 980.0

Mix and filter after standing a few days.

SPIRITUS CŒRULEUS.

Cuprum subacetate	gms. 1.0	Spirit of lavender	gms. 75.0
Ammonia water	" 50.0	" rosemary	" 75 0

Dissolve the subacetate of copper in the water of ammonia; add the other ingredients and filter.

SPIRITUS COCHLEARIÆ COMPOSITUS (Aqua Antiscorbutica Sydenham.)

Oils of orange, mace, peppermint, and sage, each	grams 1.0	Spirits of mustard	gm. 10 0
		" cochleariæ	" 500.0
		Dilute alcohol	" 500.0

Mix the ingredients and filter after standing a few days.

SPIRITUS VINI GALLICI ARTIFICIALIS.

Tincture of nut gall	gms. 10.0	Spirit of nitrous ether	gms. 10.0
Aromatic tincture	" 5.0	Acetic ether	" 1.0
Pyroligneous acid crude	" 5.0	Dilute alcohol	" 970.0

Mix, and after standing for a few days, filter.

SPIRITUS FRUMENTI ARTIFICIALIS

St. John's bread	gms 5.0	Spt. nitrous ether	gm. 2.0
Liquorice root bruised	" 5.0	Spirit of juniper	" 10.0
Orris root bruised	" 1.0	Alcohol	" 400.0
Sodium chloride	" 2.0	Hot water	" 600.0
		Acetic ether	drops 3

Mix the ingredients and allow them to remain in a well-covered vessel for twenty-four hours, then filter.

METAL-STAMP INKS.

Blue, No. 1.

Stamping inks designed for metal stamps are best prepared with oil; those for rubber stamps, with glycerin.

Ultramarine	grams 25.0	Olive oil	grams 75.0

Mix them intimately with the aid of slab and muller.

Blue, No. 2.

Prussian blue	grams 10.0	Olive oil	grams 85.0
Ultramarine	" 5.0		

Mix as for No. 1.

Green.

Copper, subacetat	grams 25.0	Olive oil	grams 70.0
Oleic acid	" 5.0		

Mix as in No. 1.

Red, No. 1.

Cinnabar	grams 40.0	Olive oil	grams 60 0

Mix as for No. 1.

Red, No. 2.

Red aniline	grams 2.0	Olive oil	grams 80.0
Oleic acid	" 18 0		

Prepare as in No. 1.

Correspondence.

We invite brief letters for this department upon any subject of interest to the pharmacist or druggist.

The publication of communications implies no indorsement by us of their contents.

Names of correspondents will not be printed if so requested.

Address matter for this department to "Editor of the WESTERN DRUGGIST, 69 Dearborn street." To be in season for the next issue letters should reach us not later than the 5th of the month.

CERTIFICATE RECIPROCATION.

(Editor the Western Druggist.)

Since, under existing American legal customs, a precedent in law has almost the value of a statute in another State in the absence of a national code, and is quoted with great reverence, especially by shyster lawyers, the issues raised in the letter "On Amendments to the Illinois Pharmacy law" have, as is well-remarked in the editorial note thereon, a national interest. While a national code must of necessity embody much that is found in the Illinois law, still such a code must take into account much that has been overlooked by the Illinois State Board which has recently been proclaimed in a pharmaceutical publication, the "best, most efficient and yet most liberal Board of Pharmacy in the country." This is not the universal opinion of Illinois druggists, since complaint is made of the scarcity of drug clerks and relaxation of the stringency of the Board is requested (WESTERN DRUGGIST, Oct., 1886, p. 398).

The weakest point in the Illinois Board of Pharmacy's liberality, is that indicated by the lady who asks (WESTERN DRUGGIST, 1886, p. 386) for a more liberal policy in regard to the recognition by pharmacy boards of each other's certificates. The competency of a druggist to carry on business in one State should, all other things being equal, be accepted as evidence of his ability to carry on business elsewhere. A druggist who has been in business for years in one place, under the present construction of a law never framed for such a purpose, can be compelled to submit to an examination whenever he removes from the State in which he is registered, to another. Such procedures simply serve to render pharmacy laws odious to people with any sense of justice.

It must be evident to any reflecting person that the State cannot have in view the aid of a particular interest by legislative acts. Its object in passing pharmacy laws was to protect its subjects against incompetent dispensers of drugs. Thus far only is the State in duty bound to go. But when the State declares that, in order to obtain this assurance, certain methods should be adopted to regulate those who are to dispense drugs, etc., such regulations cannot be made retro-active. It must hence be evident that none of those in business in other States, precedent to the passage of such a law, can be affected by it when they move to the State which has passed the law.

The Deutsche Americanische Apotheker Zeitung urges the creation of a national board of pharmacy. That this would not be unconstitutional is demonstrated by the existence of the National Sanitary Bureau and the National Agricultural Bureau, and hence, "States rights" doctrines could not prevent its creation. The Apotheker Zeitung admits that such a law could not be made ex post facto, and hence it must be obvious that the refusal of the State Board to recognize the qualifications of pharmacists from other States is not justified, since such refusal practically makes an ex-post facto law of the pharmacy laws now in force. Under existing laws, pharmacists are entitled to registration in all States if registered in one.

BEN ACHER.

ST. LOUIS, Nov. 1, 1886.

THE OHIO MAN WHO DOESN'T LIKE HIS STATE PHARMACY LAW.

Editor of the Western Druggist

Dear sir

As I am in the retail Drug business in this Grate State Ohio I shall give you the History of the traid and it drawbacks We have the Dow Liquor Law a Druggist must sell by Prescription from a Physician People will not bother going to a Drug store if there is a Salloon within Ten miles with such restrictions On the other hand the Doctors most generaly under stand how to do a little under handed business

Forinstance here is Bob he will go to the Doctor saying I dont feel verry well Doc. under stands the case

Puts up a Pint of Whiskey

Glycerine 1. oz

or some other nonsense Bob. pays and away he goes Now in this manner quite a number of the Physicians are stealing the Liquor Traid virtualey taking the traid after the Druggist has paid Government License And there is no attention paid to them while the Druggist is hampered with the Law

Now Mr Editor I wish some good man like you would take the Doctors and Lawyers in hand and write them up for they are in cohort with the Devil in the War on the Drug Traid I dont believe it wright that we should allow our selves to be hampered with the Law just to play into the hands of that class of society

I believe in every Tub standing on its own Bottum we Need no Pharmacy Law for Lawyer Pick Nicks let them starve or go at some more honorable occupation It would have been better for the Drug traid long ago If some our wise men had not been fools and plaid into thare hands I am respt yours

O B

PATENT MEDICINE PRICE CUTTING.

All the plans devised to meet this evil have proven defective in some particular. Agreements affecting a few persons are more likely to be adhered to than agreements made by many, because there are black sheep who readily escape detection in a crowd. The following plan seems to me best:

Let all druggists in a specified district unite and agree on a list price, any one violating the agreement to pay the difference between the selling and list price into a druggists' fund, for some worthy purpose. Such a system could be readily carried out by a few druggists acting together, and would prove a good antidote to the vicious principle of "quick sales and small profits" which is ruining retail druggists.

CHAS. A. DACHSEL.

MEMPHIS, TENN., Oct. 20, 1886.

Subscriber, (Washington, Ia.)—We believe the Iowa pharmacy law is alone in declaring forfeited the certificates of those pharmacists who were registered because of being in business when the act took effect, and who leave the drug business for a period of two years. This unique pro-

vision is an amendment to the original act, and while yet in the shape of a mere committee recommendation was indorsed by the State Pharmaceutical Association. What has been its specific effect and how it is regarded by the druggists of Iowa we cannot say, and should be pleased to receive information.

MAINE LETTER.

Prominent among the topics of interest to the pharmacist in connection with Maine is of course the Maine prohibition law. Prohibition is an institution of the State, and yet prohibition here does anything but prohibit. The State agency system is run purely on a political basis, and it is a very valuable position to the holder thereof. Whether the prohibition law is enforced or not depends on the state of Neal Dow's dyspepsia. When he takes a gloomy view of things in general a prohibition crusade is inaugurated. When no digestive disturbance afflicts that gentleman, liquor is sold pretty generally. As a thermometer of prohibition law enforcement Neal Dow's health is of importance. Most of the pharmacists here would prefer a license to the present law, especially since, as enforced, it subjects them to blackmail by unscrupulous inebriates whose families they have supplied in an emergency of sudden illness, but to whom they have refused liquor as a beverage.

There is much cutting of prices in Maine in localities, but the Kennebec district has a good retail druggists' association, which has acted very well as a check on price cutting. The pharmacy law simply requires the principal to be registered and the registration board does not seem to have resulted in much that was of benefit. There is no State association, and united action between pharmacists is difficult to secure, since in many localities there is a very bitter feeling between the resident pharmacists. There is much cutting of prices by the notion stores, but trade in general is good throughout the State.

The physicians of Maine have as a general rule a prejudice against advertising any drug firm or manufacturing company in any way, and carry this feeling so far as to refuse to have the names of pharmacists placed on their prescription blanks. There are very few instances of cipher prescriptions, and these are written only by the most disreputable quacks.

The chief needs of Maine pharmacy is a good State Association which could act on the Legislature, and thus secure proper restriction of the liquor traffic on a high license system which would be enforced in a systematic manner, unlike the sporadic enforcement of the present. Such an Association could also through the same means secure a repeal of the unjust alcohol and special license tax of the general Government, which works injustice to the Maine pharmacist by demonstrating to the rabid prohibition fanatic who knows nothing of the chemical uses of alcohol that the pharmacist must be selling spirits. Such an Association could also secure the amendment of the present very defective pharmacy law. A.

PORTLAND, Oct. 23, 1886.

The plant sent us by Mr. Marellus, of St. Paul, for identification, is the Great Solomon's Seal, Polygonatum giganteum Dietrich. It is rather abundant in the northern portions of the United States and in British America, and the rhizomes are used medicinally for the same purposes as those for which the European plant, Polygonatum multiflorum is used, namely, for its diuretic, emetic, and cathartic properties.

Chas. Sanderson, 3925 Lancaster avenue, Philadelphia, was recently prosecuted by the Pharmacy Board for doing business without being registered.

PARIS NOTES.

Pharmacy in Paris seems, despite an outward appearance of prosperity, to be afflicted by a species of dry rot, proceeding from causes similar to those which are injuring pharmacy elsewhere.

Among the Parisian physicians there is a great and growing tendency to prescribe specified manufactures of drugs readily dispensed in any pharmacy, which conduces only to the pecuniary benefit of the manufacturer.

The Naquet bill, which is just now occupying the attention of the legislature, contains many points of interest. It restricts the practice of pharmacy to persons having a diploma obtained in France or a French colony, and provides for the ultimate abolition of second-class diplomas. No pharmacist under it can carry on more than one pharmacy nor deal in articles unconnected with pharmacy. His name must appear on labels and special labels are required for external use. A pharmacist may associate a non-pharmacist with him in business, provided the first conducted the business; but a similar association with a medical practitioner or veterinarian is prohibited. The joint practice of medicine and pharmacy is prohibited, except in urgent extreme cases. Pharmacists may supply without a prescription officinal remedies and also simple and compound medicines, providing they bear his label and the name of the active ingredient, with the exception of certain remedies specified in the Codex, which can be sold only upon prescription of a qualified practitioner of medicine. Certain harmless drugs can be sold by any person. Religious communities, benefit societies and co-operative associations can establish pharmacies for their own members, under the supervision of a qualified practitioner, but cannot sell to the general public. A decennial revision of the Codex is provided for. The widow or heirs of a pharmacist can conduct the deceased's establishment under the supervision of a competent pharmacist. The bill is hotly debated and some of its clauses, much opposed by pharmacists, are likely to be at least modified.

The Night Pharmaceutical Service of this city is working well. It relieves the pharmacists from the burden of enforced charity to the victims of night accidents and provides prompt pharmaceutical assistance to these at the expense of the State.

Under the existing pharmacy law a woman (an herbalist) at Orleans has been twice fined for selling quinine in medicinal doses. She sold two ounces in two packages. Another herbalist who sold four ounces in the packet was acquitted on the ground that the drug was not sold in medicinal but in commercial quantities. Many pharmacists complain of the indefiniteness of the grounds for the acquittal.

At the Paris Pharmacy Society Vigier recently urged the use of talc as a base for dentifrices.

The chair of pharmacy in the Nancy School of Pharmacy will hereafter be filled by M. Held, who has long been recognized as an able pharmacist.

The permanent exhibition at Toulouse, opened Nov. 1 1886, has attracted no little attention, and the organ of the exhibition, "Le Vulgarisateur," contains many items of interest and is very attractively gotten up. The pharmaceutical display is especially attractive.

Dr. Jules Bouis, Professor of Toxicology in the Paris College of Pharmacy, died Oct. 23, at the age of 64. His most important contribution to scientific literature was his Manual of Legal Medicine. He had been professor for nearly a quarter of a century.

Professor Planchon has been elected Director of the College of Pharmacy.

Pharmacists have been placed on a level with physicians

and veterinarians, in regard to special exemption from military service.

The French Senate has offered a prize of $10,000 for the most simple and practical process for detecting the higher alcohols differing from ethylic in the spirituous liquors of commerce. It is anticipated that the discovery of such a process would check the progress of alcoholism among the French people.

M. K.

PHARMACY IN SPAIN.

Twenty years ago Spanish pharmacy was in a relatively prosperous state, both from a financial as well as a scientific standpoint. The Spanish revolutions of the last two decades have engendered demagogues who have pandered to popular prejudices and established "military pharmacies" supported by the government, where the "poor" could buy pharmaceuticals cheaper than at retail pharmacies. As these pharmacies were free from government taxes, and had but few expenses, the salaries of the officials being paid out of the army fund, the prices set upon articles were so small that the rich and middle classes were attracted to these places by the seeming guarantee which the government's name and support furnished for the quality of the articles dispensed.

Another serious evil is the widespread prescription of nostrums by physicians. Many of these nostrums are of religious origin, and sold by certain convents. Medical men, in order to secure the support of the religious orders, prescribe these religious nostrums. To the physicians who prescribe them the monks send patients. Nor is the prescription of nostrums confined to those made by the religious orders. In Spanish medical journals advertisements of foreign nostrums, like Holloway's ointments and pills, are to be found. The agents for these nostrums disburse large sums to the various religious orders, and under the name of charity present large quantities of their preparations to the various convents. The advertisement and indorsement thus secured are of enormous power in Spain. These "remedies" are kept in general stores, who obtain the privilege through donations to the convents, and thus secure their recommendation to the agent of the nostrum. As a consequence of this mingled system of government sales of pharmaceuticals and extended nostrum prescription by physicians, the pharmacist is worse paid than the meanest mechanic, and, to please the "poor," demagogues have lowered the legal standard for the practice of pharmacy. What Spanish pharmacy needs is, first, a stable, strong government, under which the demagogue could not alternately pander to the mob or the religious. The most practicable immediate need is the abolition of the military pharmacies, for it is certainly unjust and ruinous for a government to enter into business competition with its own citizens.

FARMACISTA.

A Congress of Italian pharmacists was recently held in Turin. The principal subjects for consideration were: A sanitary code in relation to pharmacy; the study of practical pharmacy; the organization of a national society; the creation of a committee on revision of the Pharmacopœia; on revision of the tariff; and discussion of the desirability of a second class of pharmacists with a grade of assistants qualified to practice in smaller cities.

Mr. Mundt, President of the Java Planters' Association, states that in two years Java will supply the demand of the world for high grade cinchona barks. The Cingalese doubt the statement.

SCIENCE MISCELLANY.

The reported untoward effects of pelletierine have retarded its administration to infants, but according to Archiv. de Pharm. (p. 409) these effects are less marked in children than adults.

In view of the destructive forest fires which rage periodically in North America it might be interesting to speculate upon the possibility of immunity from the devastation by the cultivation of "fire proof forests." According to Mr. Dyer (Gardener's Chronicle) a tree—a species of Rhopala—growing to a height of twenty feet, is said to be absolutely indestructible by fire.

A curious phenomenon is described by Mr. T. Fletcher in illustration of the theory of the cold zone. If a piece of paper be pasted smoothly upon the bottom of a kettle containing water and placed in contact with a flame, the paper will not char even with constant contact with the flame for weeks.

A mixture of salicylate of iron is recommended to be prepared extemporaneously by Dr. Braithwaite (Br. Med. Journ.) as follows: Twenty grains each of ferrous sulphate and sodium salicylate are dissolved in one fl. oz. of water separately, the solutions mixed, four fl. drams glycerin added, and then sufficient water to make three fluid ounces. This mixture is highly recommended in infantile diarrhœa accompanied by fetid stools, in teaspoonful doses every hour.

To test silver the Deutsch-Am. Apotheker Zeit. recommends moistening the articles, previously notched with a file, with a few drops of the following solution, parts by weight: Nitric acid, 6; potassium bichromate, 1; water, 2. If the silver be pure the spot becomes blood red, its intensity corresponding with the relative purity of the silver. With German silver a brown and with Britannia a black coloration is produced.

The substitution of iron pipes for lead pipes in the conducting of drinking water has been reported upon adversely by a committee of expert chemists of Great Britain, including the famous Tidy. Effective silication by means of filtration through filtering beds was recommended as preferable. It was found that all soft waters which became contaminated with lead contained only one-fifth grain silica to the gallon, while specimens containing one-half grain to the gallon remained unaffected by lead when passed through leaden pipes.

A patent has been taken out in England for making a substitute for honey out of the following: Dextrose, 35 parts; levulose, 40 parts, and cane sugar as much as will cause a 10 per cent. solution of the "honey" to register one degree on the polariscope. What next? It is to be hoped it may be more successful than the "Hewitt quinine substitute."

LANOLIN POMADE which, according to the Rundschau, is perfectly stable is prepared as follows:

Olei lanæ	grams 55
Olei theobromæ	" 5
Tinct. benzoini	" 3
Olea etheræ (according to taste)	minim 1

For perfuming pomades, the following mixture—because of its cheapness and efficiency—is highly recommended.

Oil Cassia, " citronella	each grams 8
Oil bergamotte, " geranium	" " 5
Bal-am Peru	" 5
Raspberry ether	" 20

Dissolve.

Progress of Pharmacy.

THE ACTION OF SANTONIN upon worms (ascarides) has been supposed to be due to its poisonous effects, but according to Dr. von Schroeder (Arch. f. exp. Path. p. 290) its efficacy as a tænifuge depends simply upon the fact that its presence is so distasteful to the parasites as to cause them to leave the smaller intestines, when they are readily expelled from the large intestine by a purgative. Purgatives should therefore only be administered after an interval of a few hours.

THE DETECTION OF CORROSIVE SUBLIMATE IN CALOMEL is, according to Piron-Delin (Chem. Ztg.), effected in the following manner: To 1 decigram calomel on a porcelain slab is added one drop of a 10 per cent. solution of soap in alcohol, one drop of a 10 per cent. alcoholic solution of guaiac, recently prepared, and 2 C.c. ether; the mixture stirred by means of a glass rod. In the presence of corrosive sublimate, even to the extent of 1 in 30,000, the mixture assumes, after the evaporation of the ether, a green coloration.

IN THE EXAMINATION OF COPAIBA for the detection of adulteration with fixed oil or resin, the Zeitschrift Allg. Oesterreich Apothek. ver. (p. 445, Oct. 1), recommends evaporating the "balsam" on a water bath until the residue remains constant. If upon cooling, and after standing some time, it should be tenacious, fixed oil or fat is present When dissolved in ten times its weight of alcohol (70 per cent.) filtered, and subjected to the action of chlorin gas. a yellow resin should not separate, showing the absence of colophony (rosin).

THE EXAMINATION OF PLANTAIN LEAVES (Plantago major) by Dr. Rosebaum does not indicate the presence of any alkaloid or active principle. Four per cent. of wax and chlorophyl was extracted with benzin, 4.4 per cent. resin and chlorophyl by ether. The alcoholic extract amounted to 10 per cent., 60 per cent. of which was soluble in water and the remainder, 40 per cent., in ammonia; water extracted 13 per cent., of which over one-half was insoluble in alcohol (66 per cent.). The extract with diluted acid amounted to 10 per cent., which contained a large proportion of calcium oxalate.

THE SO-CALLED AMERICAN MUSK (from the musk-rat) is investigated by Charles Symes and reported upon before the British Pharmaceutical Conference. The following process is recommended for obtaining an extract from the pods to be used in perfumery: Four ounces of the pods, sliced, are pressed between several folds of bibulous paper, and lightly washed with 2 ounces of methylated ether to remove fat. The pods, after being freed from ether, are macerated for one month in a mixture of 15 fl. oz. alcohol 5 fl. oz. water, 20 min. ammonia water, and 2 drams of animal charcoal (powdered) and then filtered through magnesia. This extract contains the musk odor, but also a trace of the rancidity, which, according to Dr. Symes could be best avoided by the trappers removing most of the oil, while the follicles are yet fresh and without impairment of the odorous principle thought to be a distinct secretion.

URETHAN, the recently introduced hypnotic, has been further experimented upon by Dr. Riegel (Pharm. Zeit., p. 351) in Giessen. The substance being a compound of carbaminic acid with an ethyl residue other combinations with the acid were effected with methyl, ethylidene and chloral, without any advantage, however. The methyl-urethan and ethylidene-urethan were without hypnotic effect, while the chloral-urethan, though formed directly by the union of chloral with ethyl-urethan, had no advantage over the latter alone as a hypnotic agent. In this connection it has been observed by M. Coxe that urethan is an effective antidote for strychnine poisoning in experimenting upon animals.

AMMONIO-MERCURIC CHLORIDE, or "Sal alembroth," a double salt, having the formula $NH_4ClHgCl_2$, in 1 per cent. solution is most largely employed by Lister for antiseptic dressing, etc. The salt is prepared by subliming, a mixture of mercuric and ammonium chloride (Am. Journ. Pharm., p. 535) in molecular proportions; or the solution may be prepared by dissolving twenty-one grains ammonium chloride and 100 grains mercuric chloride in 12,100 grains (26⅝ fl oz) of water, and adding ¼ grain aniline blue. The aniline blue is added because of its turning reddish in color when present in proportion of 1 in 10,000, when brought in contact with alkaline discharges. This is the solution known as "Lister's."

A NEW PREPARATION OF POMEGRANATE root bark somewhat similar to that of Siebold (W. D. 1884), has been recommended by Dr. von Schroeder (Pharm. Zeit p. 556), who operates as follows: A decoction of the bark is treated with milk of lime to remove tannin, the liquid filtered, neutralized with sulphuric acid and then evaporated almost to dryness upon a water bath. From the residue the purified extract is obtained by solution in 70 per cent. alcohol, which upon evaporation leaves the desired substance as a nearly crystalline body to the extent of about 5 per cent. of the amount of drug employed. Owing to the presence in it of the pelletierine as a sulphate the addition to the extract of twice its weight of tannic acid is recommended with a view of forming the much less soluble tannate so as to retard the too rapid absorption of the alkaloid, when administered as a tænicide.

THE BERBERIS ALKALOIDS.—Prof. E. Schmidt reported at the German "Naturforscher" Association's meeting in Berlin some interesting investigations on the above alkaloids:

Berberine forms with chloroform a conspicuously stable compound represented by the formula $C_{20}H_{17}NO_4 . CHCl_3$, which is, however, not a molecular combination as the chloroform is liberated at a temperature of 100° C. as well as when the compound is brought in contact with HCl, or diluted alkali solutions. Berberine combines also, in contrast to the majority of the vegetable bases, with hydrogen sulphide, forming a compound crystallizing in brown, glistening needles, which differs in composition from similar combinations with brucine and strychnine.

Hydrastine was described as being easy of production, the facility with which it crystallizes; crystals the size of a walnut being due to its acetic ether solution—and the behavior of the alkaloids toward reagents, notably ethyl iodide and oxydizing agents.

Oxyacanthine is believed to be identical with an alkaloid recently discovered from Berberis aquifolium. The thanks of the investigator were extended to Parke, Davis & Co. Detroit, U. S. A., for the samples employed.

Botany and Microscopy.

YUCCA AUGUSTIFOLIA.

Miss Helen C. De S. Abbott has recently made a chemical study of this plant and published the results in pamphlet form. These are of considerable scientific value, and are, as well as the admirable methods used in reaching them, highly creditable to the authoress.

The Yucca augustifolia is a plant common on our Western plains, from New Mexico to Dakota, and is commonly called the "Soap weed" or "Soap plant." The roots of the plant are much used by the Mexicans for cleansing purposes as a substitute for soap. Its value for this purpose, Miss Abbott finds, is due to the large proportion of saponin present, which in the wood of the root, her analysis shows, amounts to about 10 per cent. This is in much larger proportion than has been observed in any other drug. The plant may yet find important uses in pharmacy as a substitute for Quillaia and Senega.

PARALLELISM BETWEEN FORMS OF PLANTS AND THEIR CHEMICAL CONSTITUENTS.

In a paper read before the American Association for the Advancement of Science Miss Abbott suggests a relation between the developmental forms of plants and their chemical constituents. In Heckel's scheme of plant evolution flowering plants are grouped in three divisions: 1. Those marked by simplicity of floral elements; 2, those marked by multiplicity of floral elements, and 3, those marked by condensation of floral elements. She regards it as a significant fact that all the plants known to contain saponin belong to the second of these divisions. It is invariably absent where the floral elements are simple, and also invariably absent where the floral elements are condensed to their greatest extent. She also cites other examples of a correspondence between forms and chemical constituents, and draws the conclusion that the grade of the plant may be determined from its chemical constituents; that the latter run in lines parallel to the evolutionary course of plant forms. She also suggests reasons in favor of a chemical basis for the classification of plants.

If Miss Abbott's views of the parallelism between the forms of plants and their constituents be proved by further research, the fact will be of value to pharmacy in the search for alkaloidal and other important vegetable principles.

It is hardly credible though, that the chemical constituents of plants can ever constitute by themselves either a convenient or very reliable basis for classification. It is well known that the constituents of the same plant vary much under different conditions. Quinine, for example, may be abundant in Cinchona bark or entirely absent, depending on climatic or other conditions. The species of medicinal rhubarb, when transplanted from their Asiatic home to the gardens of Europe, lose most of their medicinal value. Other similar examples might be cited. Moreover, natural science teaches no lesson more clearly than this, that no one set of characters can be depended upon in classification. The method which Miss Abbott proposes may in some instances be of service, but its practical uses must certainly be very limited.

PHYSOSTIGIA VIRGINIANA.

Mr. J. Schenck, of Mt. Carmel, Ill., has made the interesting observation that bumble-bees obtain the nectar from the flowers of this plant surreptitiously by making a longitudinal slit on the upper side of the corolla tube near its base. The weight of the bee causes the slit to open, exposing the bases of the pistils and stamens, and affording the insect easy access to the nectar. Many other kinds of insects were observed to visit the flowers, but these were seen to enter the corolla and obtain the sweets in a legitimate way.

NORMAL FLUID.

A normal fluid used by students of animal histology in the study of blood corpuscles, ciliated cells, etc., will also be found of service in the study of some delicate vegetable structures. It consists of distilled water 200 cu. cm., egg albumen 13 cu. cm., common salt 4 grams, and mercuric chloride 1-20th gram. The mercuric chloride and salt should first be dissolved in the water, and then the white of egg should be added along with some fragments of glass, and agitated in a bottle until the albumen is thoroughly dissolved. The small proportion of the mercuric chloride acts as a preservative without injuring the cilia of ciliated cells or other delicate structures.

MELIA AZEDERACH.

Few pharmacists at the North identify the drug Azederach with the beautiful China tree, so highly prized within Southern States as a shade tree. It is a graceful tree, attaining a height of thirty or forty feet. It has a spreading top clothed with large doubly-pinnate leaves, in the spring-time producing panicles of lilac-colored and sweet-scented flowers, and in the autumn clusters of showy yellow fruits, each about the size of a cherry. It has other uses also besides that of a shade tree. The wood, on account of its hardness, its rich grain and color, and the fine polish it is capable of, is valued for furniture. Another property which in the South recommends it particularly for bedsteads is that bugs avoid it. The farmers use the roots as a medicine for their swine, mixing them with the animal's food. The fruits are often mixed with edible fruits for the purpose of keeping destructive insects away, care being observed, of course, to remove them before cooking the fruit, as the fruits of the China tree are reputed to possess poisonous properties. During the war they were roasted, crushed to a paste with water and white of egg, and used as a substitute for shoe blacking. In the winter time, when other food is scarce, robins and mocking-birds sometimes feed upon the drupes and become intoxicated, so that they may easily be caught. Whether the intoxicating effects are due to the presence of a narcotic principle or to the alcohol generated by the fermentation of the sugar present, is not known.

OSMIC ACID SOLUTION.

Osmic acid is an important reagent in the study of the minute structure of protoplasm. A one per cent. solution instantly hardens the living protoplasm and at the same time preserves the structure and arrangement of the parts. It also has the effect of rendering the nucleus distinct. It is also a valuable reagent for the detection of oils, as these bodies reduce the acid, precipitating the metal on the surface of the oil globules, and rendering them brown or

black. The presence of tannin may also be recognized by a similar reaction.

Osmic acid is a very poisonous substance, and great care should be observed in using it and preparing solutions of it. The vapor is highly corrosive, attacking particularly the mucuous membranes of the eyes and the air passages. The following directions for its preparation may therefore be of service:

It is sold in the market in sealed glass tubes, each ordinarily containing a grain of the crystals. The 1 per cent. solution is the one most commonly used. Place 100 cubic centimeters of pure distilled water in a strong glass vessel; by means of a three-cornered file scratch a circle transversely around the glass tube containing the acid, and then by means of strong forceps break it beneath the surface of the water. The dish should now be covered and set away in a dark place to permit the acid to dissolve. This will occupy some hours. The solution should then be carefully transferred to a glass-stoppered, dark glass bottle for preservation.

THE STUDY OF STARCH IN LEAVES.

Dr. A. F. W. Schimper employs the following method of s udying the distribution of starch in leaves: He prepares an iodized solution of chloral hydrate in water, eight parts of chloral to five of water, and after soaking the leaves in alcohol for from twelve to twenty-four hours he transfers them to the solution, which strains the starch grains distinctly at the same time that it renders the other tissues so transparent that even the minutest starch grains are rendered distinct. The solution, minus the iodine, is also a valuable one generally for clearing vegetable tissues.

An Austrian investigator, Mr. Ernest Freund, claims to have discovered cellulose in the blood, and other organs of human beings suffering from tuberculous disease. The fact, if it be a fact, is a very suggestive one, and is another added link to the long chain of evidence of the relation ship between animals and plants.

The October number of The Microscope appears in a new dress, and the character of the contents, with the exception of one article, justifies the hope that the publication will become, under its new management, a useful scientific journal. The exceptional article to which we refer is one entitled "Victory at Last," by C. H. Stowell, the former editor of the journal. It is an undignified and uncalled for personal attack on Prof. Hitchcock, recently editor of the American Monthly Microscopical Journal. No private grievance can justify public abuse like that, and an editor who thus takes advantage of his public position to gratify a private vengeance forfeits public respect and demonstrates his incompetency.

We are glad to note the promise of the new management that the policy of The Microscope is to be different hereafter; that its columns in the future will have room only for things relating to microscopy, and that they will be jealously guarded from encroachments of foreign matter. "The advancement of science," they justly say, "depends much on the harmony of its devotees, and we hope in the future no action of ours will create a disturbance of this necessary harmony." There is room for a journal of microscopy that pursues this policy, and if The Microscope is in other respects ably conducted it will receive the hearty support of scientific workers.

A fact too little recognized by the journals of microscopy generally is that microscopy is an adjunct to scientific research, and not strictly a science in itself—a means and not an end. Too much space is given to beautiful objects, the ways of making beautiful mounts, and generally to the pleasant ways of whiling away time with the microscope, and too little to the serious use of the instrument as a means of research in mineralogy, vegetable and animal histology, and various other departments of science.

Dr. Frank W. Brown calls attention in The Microscope to a new freezing mixture, which he regards as more useful than ether for microscopical purposes. The liquid was invented by M. Raoul Pictet, the Geneva chemist, for use as a disinfectant, but it is found to answer admirably as a freezing mixture. It is composed of sulphur dioxide and carbon dioxide. The mixed gases are first cooled, then compressed into the liquid form and stored in the ordinary siphon bottles, in which form the preparation reaches the market. The rapid evaporation of the liquid when liberated from the siphon of the bottle causes a very rapid reduction of the temperature. Mercury may be frozen by this means in a short time, and animal and vegetable tissues in a few seconds. The preparation is said to be as easily managed as ether, and much more effective. One objection to its use, we should say, would be the suffocating odor of the sulphur dioxide, which would necessitate performing operations with it under a hood or in the open air.

Dr. Vines, of Christ's College, Cambridge, has recently published a valuable work on vegetable physiology. It is an octavo volume of about 700 pages, and consists of a course of twenty-three lectures, covering the ground of the Plant Cell, Absorption, Plant Movements, Transportation, Plant Food, Metabolism, Growth, Irritability and Reproduction. The subjects are presented with admirable clearness and method. Those botanists whose interest in their science extends beyond the collection and naming of plants will regard the book as one of the exceptionally valuable ones they cannot afford to do without.

We learn that Mr. F. L Sargent has been elected to the chair of Botany in the Wisconsin State University in the place of Prof. Seymour, who has resigned.

The Illinois Board of Pharmacy prosecuted for violations of the pharmacy law: Messrs. D. W. Crum, Castleton; J. L. Robertson, Sandoval; H. L. Sherman, Sandoval; B. N. Beaver, Iuka; Pinkstaff & Wardell, Birds; Chas. Schneck, Mt. Carmel; T. C. Joachims, Belmont; B. W. Hixon, Browns; P. J. Miller, Chicago; E. Merz, Chicago, and S. L Beidler, Mt. Pulaski; Drs. H. M. Sargent, Sandoval; A. Haas, Chicago; and H. W. Kendall, Quincy, who were fined $50 and costs. The case against C. T. Harris, of Sullivan, was dismissed for want of proper complaint. Messrs. Edward, Charles and August Merz, of Chicago, were declared not guilty by a justice court jury

The Manual on Animal Vaccination, by Dr. E. Worlomont, of Belgium, published by Messrs. John Wyeth & Bro., Philadelphia, is one of the most valuable presented to the medical profession. Dr. Worlomont is well and favorably known as an earnest, careful investigator. His extended service as head of the Belgian Vaccine Institute renders him an authority on vaccination. The present work contains matter of great value and interest to sanitarians and to pharmacists who are likely to be called on for information as to vaccine virus.

Societies and Colleges.

MICHIGAN PHARMACEUTICAL ASSOCIATION.

The fourth annual session of the Michigan State Pharmaceutical Association convened in Arcanum Hall, Grand Rapids, Oct. 12, 1886. Calling the meeting to order. President Brown, after a few pleasant words of greeting, introduced the Rev. F. A. De Rosset who opened the proceedings with prayer. Alderman Hayward welcomed the Association, giving its members the freedom of the city. Mr. Bassett of Detroit, responded in a fitting manner on behalf of the Association.

President Brown in his address expressed much pleasure at seeing such a large attendance. The pharmaceutical profession, he said, could not be dormant; it must advance or retreat. It must keep abreast of the progressive thought of the day or fall behind. An aggressive warfare must be made on every form of fraud and quackery; on ignorance, incompetency and dishonesty.

The year had been one of marked improvement in pharmacy, and to this American pharmacists had contributed much. The members were urged to join the American Pharmaceutical Association. There should be a more intimate relation between members of the pharmaceutical and medical professions. The interests of the two are so closely allied that there should be more generous appreciation by physicians of the pharmacist's rightful position and more just and considerate treatment of physicians on the part of pharmacists. The initiative should be taken by pharmacists and the Association should request the State Medical Society to send delegates to the Association.

The proceedings should be more promptly issued, and the Secretary granted assistance to this end. Advertisements should, if possible, be dispensed with as they had seriously marred the typographical neatness of the last edition. Advertisements between the reading matter were especially objectionable. The article of the constitution requiring signature by members should be amended so as to enable members to sign by proxy. Local societies should be organized in the State. There were good reports from all the local societies.

The distribution of free samples of patent nostrums was said to have damaged the sale of the larger or regular sizes. The Grand Rapids and Saginaw societies had taken a stand against this alleged nuisance, and had driven the free samples out of their respective cities. It seemed to him that it would prove a blessing to pharmacy if free samples, or something else should not only damage, but ruin the sale of these preparations. An injury to nearly every retail druggist in the State resulted from the publication in the Detroit daily papers, of the jobbing prices of quinine and other staple drugs. Such quotations were of no especial benefit. If furnished to the press by the Detroit jobbers, the Association should request said jobbers not to furnish them in the future, and they would gladly respect such request. Quotations on hops, beeswax, oil of peppermint, or articles which a retailer occasionally desires to purchase of the producer, could not be found in these same papers. The idea of an annual conference of the State Secretaries was a good one and the Association should endeavor to secure the success of such conferences. The propriety of a "red" poison label was discussed at length and it was recommended that the Committee on Legislation be instructed to bring the matter before the next legislature.

The exhibits before the Association should be restricted to those of a pharmaceutical nature. President Wells had recommended the adoption of a code of ethics two years ago. There were good points in the Connecticut code deserving the attention of the Association. They were as follows: "First, We accept the U. S. Pharmacopœia as our standard and guide for all officinal preparations, and recognize a variance from its rules only in exceptional cases, when sufficient authority has proved some other process liable to attain the end. We would, however, recognize the authority to dispense medicines when they are especially ordered, to be compounded in accordance with foreign Pharmacopœias. Second, We discountenance all secret formulas between physicians and pharmacists and consider it our duty to communicate such to each other when requested, unless otherwise directed by the physician who originated the same. Third, We distinctly repudiate the practice of allowing physicians a percentage in any form on their prescriptions or patronage as being derogatory to both professions. Fourth, We will endeavor as far as possible to refrain from compromising the professional reputation of any physician, and expect in return the same courtesy from him. Fifth, Believing that the professional training of a pharmacist does not include those branches which enable the physician to diagnose and treat disease, we should in all practical cases decline to give medical advice and refer the applicant to an educated physician. Sixth, The growing demands of the age require that those who follow the profession of pharmacy should be educated up to a higher standard; therefore we consider it our duty to encourage the advancement of knowledge in our profession generally, and more particularly by stimulating our assistants in every way possible to become proficient in their business. Seventh, While we recognize the value of alcohol as a therapeutic agent, and believe it proper to be sold as such by pharmacists, we would deplore the widespread evils resulting from its intemperate use, and we condemn any attempt to make it a prominent feature of our business or its sale in any form to be drank on our premises as unprofessional and contrary to public policy and good morals. Eighth, Believing that some means should be adopted to enforce the provisions of this code a member may report at the annual meeting of the Association any one guilty of violating the code who may, thereupon, if found guilty, be by a two-thirds vote expelled."

The State Medical Association should be asked to promote the prescription of officinal preparations or of known and published formulæ. In accordance with the resolution of the A. P. A., Mr. A. B. Stevens had been appointed a member of the A. P. A. Committee on Unofficinal Formulæ. The Association should appoint its representatives on the U. S. Pharmacopœial Revision Committee.

The address was referred to a committee consisting of Messrs. G. W. Crouter, C. Wright and E. F. Webb.

Secretary Jesson, of the State Board of Pharmacy, read the annual report of the Board. The total number of persons now registered under the law is 3,015. The receipts of the Board were $6,087 and the disbursements $2,818 77, leaving a balance of $3,268 23. Of this amount, $2,500 had been turned over to the State Treasurer, leaving a balance on hand, $768.23. The report was accepted. A paper on "Caffeine in Coffee," by Mr. E. D. Smith of Ann Arbor, was then read. Prof. A. B. Stevens delivered a lecture on the "Plants Indigenous to Ann Arbor," illustrated by beautifully mounted specimens. Mr. Stone of Detroit read a paper on the extent to which the metric system was used by physicians. He had found that physicians were loth to use it as far as could be determined by meager statistics. This led to a general discussion on "Weights and Measures in Pharmacy."

Mr. Frank Wells thought the metric system was not growing in favor

Mr. Bassett said the system was falling into disuse among the Detroit physicians.

Mr. Perry believed that not one physician in twenty-five used the system in Detroit. Those who use it were educated in Germany.

Mr. Wurzburg said only two physicians used the system in Grand Rapids, one was a German Its popularity was not on the increase, certainly not growing.

Prof. Stevens thought one reason why physicians did not like it is because druggists seldom had proper scales

Mr. A. M. Todd invariably used the metric system, although he was liable to make mistakes when computing by it. He saw no reason why it should not become general, except the prejudice in favor of the old system.

Prof. Prescott said the metric system was taught in analytical chemical work in the School of Pharmacy. The Pharmacopœia did not establish any system.

Geo. Gundrum did not meet nearly so many prescriptions written in the metric system as five years ago.

Prof. A. B. Lyons thought the system was not likely to become general until established by law. Physicians educated abroad were very enthusiastic over the system at first, but soon fell into the old way.

Mr. Eberbach had adopted the metric system and liked it.

Prof. Lyons recently had occasion to test two two-pint graduates. One over-ran two ounces, and the other fell short the same quantity.

Mr. Frank Hibbard said that the Wisconsin Pharmaceutical association unqualifiedly condemned the system.

C. L. Martin had seen but ten prescriptions written in the metric system in six years.

President Brown said that before the new system could be generally adopted, both physicians and druggists would have to unlearn the old system.

Mr. Bassett said he had a Pharmacopœia for sale very cheap. Whenever he made any preparations he took down the Dispensatory, and used the system of weights which is a part of every American's education. The system used in the Pharmacopœia sometimes varied 6 per cent., which might endanger life. He hoped the Association would repudiate such a system.

Prof. Stevens defied the convention to find a chemist who would give the metric system up after a six months' trial in making preparations.

EVENING SESSION.

At the opening of the evening session, President Brown called upon Dr. W. E. Shorts, of Ludington, a member of the Legislature, who at the time of the passage of the pharmacy law, rendered the measure efficient service. Dr. Shorts commended the Association and its work in the highest terms. He looked upon pharmacy as a profession in its truest sense. The physician and pharmacist should go hand in hand. It was the duty of every citizen to use all honorable endeavors to further their interests socially, professionally or materially.

The "Question Box" was then opened. In answer to the query whether a physician could practice pharmacy without registration, Mr. Eberbach stated he might dispense his own prescriptions but not those of others. Mr. Eberbach in answer to another question said an apprentice was allowed to dispense prescriptions only under the supervision of a registered pharmacist. Mr. H. W. Snow of Detroit, read a paper on the "Alkaloidal value of fluid extracts of veratrum viridi." The drug was extremely complex and the therapeutic value of its different ingredients had not yet been fully settled. The alkaloidal value of the different specimens varied widely; the strongest being two and a half times the weakest.

Mr. O. Scherer, Ann Arbor, then read a paper on the "Quality of Caffeine Citrate in the Market," which appears in full elsewhere.

Prof. Prescott said the paper was of much interest as it tended to demonstrate the existence of caffeine citrate. Prof. Prescott then discussed at length "what course of reading and plan of study are advisable for the assistant in pharmacy." After some discussion by President Brown, Mr. Wells, Dr. Lyons, Mr. Bassett, Prof. Stevens and Mr. Snow, the paper was on motion ordered printed by the Association in pamphlet form and distributed to the pharmacists of the State. After the announcement of invitations from several local firms, the Association adjourned to the Peninsular club house where a very pleasant reception was held.

WEDNESDAY MORNING.

President Brown, after calling the meeting to order, announced the following Committee on Exhibits: Messrs. A. W. Allen, J. W. Caldwell, Geo. W. Beaman, H. Harwood and S. M. Snow.

The report of the Committee on Unofficinal Formulary was then read by Prof. Prescott. The committee had corresponded with the Grand Rapids, Jackson county and Saginaw county Pharmaceutical Societies and the Detroit Medical Societies, but had secured few suggestions though much interest had been expressed. The suggestions were forwarded to the American Pharmaceutical Association. The last named body had made its committee broadly representative, and hence the existence of the present committee was no longer necessary.

A general somewhat informal discussion resulted, in which the opinion was very generally expressed by Messrs. Snow, Wells and others that the action of the American Pharmaceutical Association in changing the system of representation on the Unofficinal Formulary Committee was decidedly worthy of approval, for as the committee first stood it would have been just as well to accept the New York and Brooklyn Formulary without change, since the members were uninformed as to the needs of other localities.

Mr. E. F. Phillips read the report of the Committee on Legislation which congratulated the Association on the pharmacy law and recommended the enactment of the Georgia poison label law.

Dr. Lyons read the report of the Committee on Michigan School of Pharmacy. The committee were of the opinion that the school had rendered vast services to the cause of pharmacy in Michigan.

Mr. Jesson of the Committee on Removal of the Liquor Tax, reported that legislators were of opinion that Congress would refuse to repeal the law.

Secretary Parkill then read his report: The expenditures had been $853.67 and the receipts $892. The proceedings cost the Association $144.70. The membership at last meeting was 691. Two had withdrawn and one died and 93 had been added, making the total membership 781.

Treasurer Dupont reported a balance of $578.38.

Mr. Frank Wells read a report as delegate to the N. W. D. A. All of which reports were adopted.

Mr. F. Hibbard read his report as delegate to the Wisconsin Association. Mr. Jesson said that the Wisconsin Association were carried away by the alcohol tax repeal idea. Such a reduction would not benefit the retail pharmacist.

Mr. Wells thought every pharmacist should use his best endeavors to remove the stigma cast upon them by the government.

Mr. Gundrum was of the opinion that the alcohol tax abolition would not benefit the consumer, but pharmacists should endeavor to remove the liquor license tax.

Mr. Lyman reported as delegate from the Illinois Pharmaceutical Association. Mr. Jesson read the report of the Executive Committee, which was on motion adopted.

Mr. Bassett then presented the report of the Committee on Trade Interests. It called attention to the adulteration of white lead and advised as a remedy the label-

ing of white lead as strictly pure. The report also discussed the propriety of forming mutual fire insurance companies; the co-operation of retail pharmacists in buying goods and saving middlemen's profits. The practice of jobbers furnishing daily papers with quinine and other quotations had a bad effect. The sample and 10 cent bottles of patent medicine were injurious to that trade. The sale of drugs to physicians by jobbers was cutting into the pharmacists' profits. A uniform scale of prescriptions had been proposed as a means of prevention of the cutting of prices. These were taken up seriatim and after a spirited discussion by Messrs. Bassett, Wells, Jesson, Lyons, Snow, Wurzburg, President Brown, Profs. Prescott and Stevens, the following Committee on Adulterations was appointed: Prof. A. B. Prescott, Ann Arbor; A Bassett, Detroit, and A. B. Stevens, Ann Arbor.

Action on the fire insurance question was deferred, but the Committee on Trade Interests were directed to confer with the N. W. D. A. Committee on the subject. No action was taken on the uniform prescription scale.

The Committee on President's Address then rendered their report: They recommended that the constitution be amended as suggested, and that the president be empowered to fill vacancies. The election of an assistant secretary was not needed. The Secretary and Executive Committee had sufficient power to provide for emergencies. The suggestion to form county societies was strongly recommended and that each society be entitled to representation in the State Association.

The committee doubted if a check could be put upon the publication of quinine quotations in the daily press. The recommendation that the secretary's expenses to the State Secretaries Conference be paid was indorsed, as was also that as to exhibits. The committee approved of the recommendation of a poison label law, and also that relating to the proposed incorporation of the society. The question of a code should, the committee thought, be deferred for the present.

The report was taken up seriatim:

The sale of drugs by manufacturers and jobbers to physicians was condemned by the association. It was moved that a committee of one in each city or county be appointed by the president to take charge of the matter of forming local societies.

It was decided to send the secretary of the association to the annual conference of State secretaries, and to pay his traveling expenses. The subject of the scarlet poison label was laid on the table. It was moved to appoint a committee to assist in the revision of the United States Pharmacopœia. The matter of incorporating the society was placed in the hands of the Legislative committee. On motion the secretary was ordered to correspond with manufacturers and request them to stop the objectionable quotations in daily papers. The association then adjourned.

THURSDAY MORNING SESSION.

After the meeting had been called to order the "Question Box" propounded the query as to the best drug mill. Mr. Eberbach preferred the Enterprise. President Brown preferred the Swift.

The question was raised as to the test for kerosene. It seemed to be the general opinion, as expressed by Mr. Wells and Prof. Prescott, that the test should remain as it is.

Papers were then read as follows:

By Mr. Snow: On "Solid Extracts" (which will appear hereafter); by Mr. Conrad: On "Iodoform;" by E. A. Ruddiman on "Salicylic Acid."

On motion it was decided that all papers be in Secretary's hands within a month.

A paper on the U. S. P. method of assaying opium was then read by Messrs. Wrampelmeier and Meinert. E. C. Fredener presented a paper on the feasibility of improvement in the present preparation of fluid extract of ergot. S. H. Douglass was elected an honorary member. Each member was solicited to call the attention of druggists to the benefits to be derived from membership in the association, and invite them to become members. Accepted. A. W. Allen presented the report of the Committee on Exhibits, which complimented the association on the finest exhibit yet made in the State in quality.

The following officers were elected:

President—F. Wurzburg, Grand Rapids. *Vice-Presidents*—Mrs. C. W. Taylor, Loomis; Henry Harwood, Ishpeming; Frank Inglis, Detroit. *Secretary*—S. E. Parkill, Owosso. *Local Secretary*—G. M. Harwood, Petoskey. *Treasurer*—Wm. Dupont, Detroit.

The President announced the following committees: *Trade Interests*—A. Bassett, Detroit; H. B. Fairchild, Grand Rapids; G. W. Crouter, Charlevoix.

Pharmacy and Queries—Dr. A. B. Prescott, Ann Arbor; A. B. Lyons, Detroit; O. Eberbach, Ann Arbor.

Legislation—Frank Wells, Lansing; John E. Peck, Grand Rapids; Jacob Jesson, Muskegon.

Petoskey, July 13, 1887, was selected as the next time and place of meeting. Messrs. Crouter, Charlevoix; J. G. Johnson, Traverse City; Jesson, Muskegon; G. Gundrum, Ionia; and W. Rushmore, Elk River, were elected the Executive Committee. A. B. Lyons was chosen to assist the Secretary in preparing the proceedings.

The President appointed as the committee on Michigan School of Pharmacy Messrs. A. S. Parker, Detroit; Frank Alsdorf, Lansing; and E. J. Rogers, Port Huron.

The Association then adjourned after the usual votes of thanks.

There were present: E. J. Andrus, Utica; Morrison Bailey, Plainwell; Wm. J. Barker, Hart; Nathan P. Blakeslee, Elmira; John F. Conrad, Otsego; Geo. W. Crane, Cheboygan; R. W. Culver, Battle Creek; John Crispe, Plainwell; Robert P. Davie, Flushing; H. B. Fairchild, Grand Rapids; Albert R. Foster, Otsego; Charles E. Foote, Jackson; John R. Fox, Cedar Springs; A. W. Fenton, Bailey; B. E. Terrill, Muir; H. G Thompson, Menominee; W. J. Tillotson, Laingsburg; W. S. Tucker, Stanwood; Alfred Tullgren, Iron Mountain; Robert Turner, Flat Rock; J. H. Voller, Evart; N. A. Vyne, Fremont; Adam Wagner, Eastmanville; Walter A. Ward, Eau Claire; Ezra Weaver, Reading; Byron S. Webb, Alma; G. F. Whitfield, Grand Rapids; R. S. Wolford, Mecosta; C. M. Waite, Homer: W. E. White, Grand Rapids; S. M. Geary, Maple Hill; P. E Hackett, Wolverine; Frank Hogerman, Birmingham; A. L. Haight, Woodland; Edward A. Hamilton, White Pigeon; D. O. Haynes, Detroit; E. J. Hinds, Midland; Fred A. Hutty, Grand Haven; Theo. A. Jamison, So. Boardman; T. B Kennedy, Commerce; W. S. Kinsel, Detroit; Derk Kimm and M. B. Kimm, Grand Rapids; N. P. Leland, Gaines; Geo. L. Lusk, Owosso; L. M. Mills, Grand Rapids; Geo. A. McHenry, Chippewa Lake; N. Miller, Fremont; C. H. Milner, Big Rapids; Byron McNeal, Byron Center; Kirk W. Noyes, Paw Paw; A. C. Warne, East Jordan; E. W. Orr, Manistique; O. J. Parker, Howell; John H. Passage, Greenville; L. Perrigo, Burnip's Corners; J. W. Runner, Shelby; L. Rogers, Eastport; A. E. Rudolph, Dowagiac; John Rundel, Holton; W. W. Slawson, Greenville; A. Lee Smith, Crystal; A. W. Stevenson, Muskegon; Thos. P. Stiles, Chester; H. E. Stover, Kalkaska; Bruce Suffield, Charlevoix; W. H. Spoyde, Bloomingdale; W. H. Tibbs, Grand Rapids; Isaac Amberg, Battle Creek; A. F. Hazeltine and Jas. A. [illegible]kston, Grand Rapids; A. F. Kellogg, Cedar Lake; [illegible]d Brundage, Muskegon; Geo. W. Beaman, East J[illegible]an; Mrs. Della Mandigo, Sherwood; W. H. Owen, Maple Rapids; John D Muir, Grand Rapids; L. D. Chapple, Wayland; T. W. Preston, Millbrook; Spencer H. Warner, Marlette; C. O. Wells, Brockway Center; L. E. Paige Sparta; Fred J. Todd, Detroit; E. M. Dunham, Grand Rapids; I. N. Rodenbaugh, Mancelona; Joseph Lonsbury,

Reed City; L. P. Orth, Traverse City; Ernest C. Federer, Frank J. Hunt and George Boehnlein, Frank Inglis and H. W. Snow, Detroit; Mr. Wurzburg, Grand Rapids; G. W. Crouter, Charlevoix; Frank Wells, Lansing; Prof. Prescott, Ann Arbor; Prof. Stevens, Ann Arbor; Jacob Jesson, Muskegon; A. Bassett, A. S. Parker, and Wm. Dupont, Detroit; F. Alsdorf, Lansing; E. J. Rogers, Port Huron; A. W. Allen, Detroit; Mrs. C. W. Taylor, Loomis; Henry Harwood, Ishpeming; S. E. Parkill, Owosso; G. M. Harwood, Petoskey; H. B. Fairchild and G. E. Peck, Grand Rapids; O. Eberbach, Ann Arbor; J. G Johnson Traverse City; G. Gundrum, Ionia; W. Rushmore, Elk River, and others.

THE COMMERCIAL EXHIBIT.

The display as a whole was well arranged. While individual taste had been consulted in the arrangement of each exhibit, the exhibitors had subordinated the more glaring features of each exhibit to the attractiveness of the exhibit as a whole, and had thus produced a very striking effect.

The virtues of menthol, and the means by which it could be used in therapeutics, were well brought out by Mr. Cushman, who had arranged in an attractive manner a fine display of his menthol inhalant.

The specialties of Messrs. Chapman, Green & Co. were well displayed and attracted much attention.

An excellent idea of the progress and extent of the menthol industry could be obtained from the display of Mr. A. M. Todd, of Nottawa, Mich., which included green specimens in pots of Japanese and American peppermint; also every variety of menthol, essential oils, etc., and a beautiful little working model of a menthol factory in operation.

The rare plants and drugs in attractively arranged cases, the beautiful cut bottles of fluid extracts, normal liquids, etc., of Parke, Davis & Co., of Detroit, were a striking feature of the display at the end of the hall.

Under the courteous direction of Mr. E. M. Snow the visiting pharmacist received much instruction from the Alkassays, non-secret preparations, etc., which Messrs. Frederick Stearns & Co. displayed in bewildering variety.

The plasters, carbolized gauze and antiseptic goods of Messrs. Seabury & Johnson were a prominent feature in the exhibit.

The genial manner in which Mr. Ballard descanted on the virtues of the exhibit of Messrs. Morrisson, Plummer & Co. drew almost as much attention to the display made by the firm as did the attractiveness of the exhibit itself.

The fluid extracts of Messrs. Farrand, Williams & Co., of Detroit, were so displayed as to attract an admiring crowd of interested pharmacists around their exhibit.

The compressed tablets, fluid extracts, etc., of John Wyeth & Bro., of Philadelphia, were arranged in a manner which was a credit alike to the firm and its representative.

Some beautiful interior arrangements of pharmacies were exhibited by Messrs. Heyman & Co., of Grand Rapids.

Mr. Frank Inglis exhibited specimens of his elixir of fir as the central feature of an attractive display.

THE SOUTH AFRICAN PHARMACEUTICAL ASSOCIATION.—This association held its meeting Sept. 17, 1886, and elected the following officers: President, A. Walsh, Port Elizabeth; Vice-President, A. Davidson, Kimberley; Treasurer, J. L. Drege, Port Elizabeth; Secretary, F. E. Constance, Port Elizabeth.

THE IRISH PHARMACEUTICAL SOCIETY elected at its Oct. 4th meeting the following officers: President, W. N. Allen; Vice-President, Mr. Draper; Treasurer, Mr. Hodgson; Registrar, M. H. Farrel.

MICHIGAN LICENTIATES.—At the last regular meeting of the Michigan Board of Pharmacy held in Lansing Nov. 2, 3 and 4, eighteen persons passed a satisfactory examination, and ten failed. The next meeting of the Board will be held in Grand Rapids on the first Tuesday in March, 1887. The following passed the examination:

A. J. Roos, Detroit;	W. H. Klute, Kalamazoo;
R. Crysler, Detroit;	F. J. Henning, Ann Arbor;
W. W. Smith, Grand Rapids;	H. J. Chadwick, Hart;
W. S. Evarts, Grand Rapids;	F. M. Wright, Athens;
John F. Ward, Detroit;	F. W. Pollock, Sand Lake;
E. M. Gay, Allegan;	S. G. Morgan, Roscommon;
A. F. Vogel, Chelsea:	W. J. Kelly, Jackson;
W. T. Roxbury, Reed City;	Q. A. Hyner, Hastings;
W. P. Cotton, Macon;	E. L. Baldwin, Ludington.

WISCONSIN LICENTIATES.—The Wisconsin Board of Pharmacy on November 12 completed the examination of the papers of candidates for certificates. Out of thirty-eight applicants seventeen received full licentiate certificates, as follows: G. B. Richter, Frank Munkwitz, G. H. E. Schulz, E. B. Stuart, J. J. Siddall, Edward Roth, M. Kaumliner, Henry C. Krause, of Milwaukee; Sister Mathilda Lang, of La Crosse; B. B. Collier, of Clinton Junction; Edward Sauerhering, of Mayville; C. F. Whalen, of Oakfield; F. H. Pfunder, of Kewaunee; Chas. Wichern, of Racine; Geo. E. Banks, of Monroe; G. A. Skelly, of Janesville; E. O. Smith, of Janesville. Four second grades, or minor certificates, were granted, the recipients being R. J. Roach, of Barnesville; Frank Harris, of La Grange; M. B. Wood, of Pittsville; Wm. Fischer, of Norwalk. Minor certificates entitle holders to do business in towns of less than 500 population. Certificates as graduates were granted to L. N. Wood, of Superior; E. J. Wickstrom, of Osceola Mills; Wm. Hiecke, H. O. Reinoldt, C. F. Berger, of Milwaukee.

The next meeting for the examination of candidates will be held in Milwaukee, Wednesday, January 26, 1887, and the next succeeding meeting will be held at Madison, Wednesday, April 13. The Board devoted its last session of the present meeting to the consideration of complaints which have been made regarding violations of the law. The Secretary, E. B. Heimstreet, acting under direction of the Board, will visit the drugstores of Milwaukee to see that the law requiring pharmacists to keep their certificates exposed to public view is complied with.

The San Francisco branch N. R. D. A. held its quarterly meeting Oct. 20, 1886, in the California College of Pharmacy. The Executive Committee reported that several offenders against the price regulations had abandoned their practices, or had paid the penalty. Mr. Koeler, a prominent pharmacist, had died. The Turkish drugstore recently opened was a dispensary conducted by a physician and pharmacist who refused to join the Branch. The treasury balance on hand was $50.40. On motion the report was adopted, after which the Branch adjourned.

The National Institute of Pharmacy was the subject of the following complimentary reference by President Melendy, of the Minnesota Pharmaceutical Association, who said in the course of his annual address: "A National Institute of Pharmacy has been established at Chicago by which druggists and their clerks so situated as to be unable to avail themselves of the advantages of attendance at a college of pharmacy can pursue a course of study by means of lectures mailed to them semi-monthly. This seems a particularly good thing for those who are preparing for examination."

Notes and News.

Rosewood pig-stys are a Mexican institution.

Boracic acid is used in Norway to cure herrings.

The Ameer of Afghanistan has opened a dispensary.

The Congress of Italian pharmacists was held Oct. 4, 1886.

Syrup of foxes' lungs is an English synonym for syrup rhœados.

The Paris Night Pharmaceutical Service is already quite a success.

The English government has resumed the cultivation of jalap in Madras.

The St. Louis College of Pharmacy opened its session with 130 students.

Condensed milk is growing in favor as an infant food among the Chinese.

The Buffalo College of Pharmacy opened with 80 students Oct. 11, 1886.

Dr. M. V. Machuca, Professor of Pharmacy in the Havana University, is dead.

The United States imports $150,000 worth of licorice root annually from Damascus.

An American whaler recently took from one whale thirty pounds of ambergris; value $10,000.

Ceylon exports of cinchona bark have risen from nine tons in 1875 to 5,889½ tons in 1885.

"Nausine" and anti-nausine are two English rivals for popular favor as cures for sea-sickness.

Henry Davis, Ph. C., one of the founders of the British Pharmaceutical Society, died Oct. 14, 1886.

In Odessa, Russia, twenty-three of the pharmacists (one-third of the whole number) are Hebrews.

Tomatoes are "vegetables" and not "fruit," according to a recent decision of the Treasury Department.

Arseniuretted hydrogen escapes from the oil wells of Ohio, causing arsenic poisoning among the oil-workers.

The dangerous results from salicylic acid have caused a prohibition by France of its use as a food preservative.

Dr. Alexander Dyce Davidson, Professor of Materia Medica in the University of Aberdeen, died Oct. 22, 1886.

The Chinese have introduced opium-smoking among the Australian aborigines, who are fast perishing under its abuse.

A new coffee tree, growing seven to eight feet high, and with a fine flavored berry, has been discovered in West Africa.

Prof. Wetrine, of the Constantinople, Turkey, Academy of Pharmacy, was murdered Nov. 2, 1886, for mercenary reasons.

Perfumes to the amount of $3,000,000 are annually imported from Grasse, France, the chief seat of the perfume industry.

Prof. F. B. Power has been appointed the Wisconsin representative on the National Formulary Committee of the A. P. A.

A case has recently been reported from Paris in which a woman forged a physician's name to a prescription calling for laudanum to be taken immediately, and certain pills, to be sent to a specified address. The same trick has been tried by impecunious opium users in the United States.

The first issue (20,000 copies) of the British Pharmacopœia (edition of 1885) has been exhausted, and a new issue is called for.

The New Haven (Conn.) Pharmaceutical Association has secured permanent headquarters, and established a reading-room.

The Island of Redonda, B. W. I., has been found to contain phosphates in large quantities. It was bought for a song by an English firm.

Assayers, according to a recent decision, must use all scientific tests to determine the facts set forth by them in their certificate of assay.

A German homœopathist has run afoul of the German pharmacy law which troubled Hahnemann, and been fined for dispensing medicines.

The Kentucky Court of Appeals has decided that an action barred by the statute of limitations cannot be affected by subsequent legislation.

Dr. J. B. Mattison, Philadelphia, requests pharmacists to send him full details of any case of cocaine addiction. All costs incurred will be repaid.

Logwood, which has been at the bottom of Vigo Bay for 184 years, has been found by dyers to be better for dyeing purposes than any now imported.

A Vermont farmer got even with a grocer who overcharged by putting an extra quantity of water into maple sap before he "boiled it down to sugar."

The term laudanum was formerly used to designate extr. opii alone or combined with other ingredients. The resinous juice of cistus lodaniferus was also so called.

The Druggists' Journal proposes that the "posterior nerves" be plugged in case of nose bleed. What and where the posterior nerves are it does not inform its readers.

Notes signed on Sunday but not delivered till Monday are valid according to a recent decision of the Iowa Supreme Court. The contract is made when the note is delivered.

An arrangement has been effected for the mutual recognition of diplomas of qualification between the Ontario College of Pharmacy and the Manitoba Pharmaceutical Association.

Several exhibitors in the Liverpool exhibitions have refused gold medals awarded them on the ground that they were so carelessly awarded as to be of no value as an advertisement.

"Natron bicarbonicum," according to certain Australian pharmacists, is never used in dispensing, and is not in the B. P. It is obvious that there is need for reform in Australian pharmacy laws.

The transfer of goods in payment of debt by an insolvent merchant is not a sale in the ordinary sense, but a preference of one creditor over another, according to a recent decision of the Kentucky Superior Court.

A Formulary of the Eleventh Century has been found in the archives of Piedmont. The first recipes are for making good ink and illuminative parchment. The vegetable

remedies include aloes, camphor, cassia, lettuce, opium, honey, rue, linseed, mustard, etc., and are mostly derived from the work of Lucius Apuleius Platonicus on the virtue of herbs.

Proctor & Gamble recently opened their new manufactory, located at Ivorydale, just outside of Cincinnati, by a banquet at which the most prominent citizens were present.

"Michigan Subscriber:" A drug clerk registered in any other State would have no advantage in law in Michigan over an unregistered clerk. Every Board of Pharmacy is sovereign in its province, and recognizes the certificates of no other Board.

A suicide by strychnine having occurred at Tasmania, a coroner's jury and local newspaper called the pharmacists to order for not obeying the "sale of poisons" act. The paper after giving a detailed account of the act was dumbfounded to find that there was no such act.

Mr. Jesson, as President of the Michigan Pharmaceutical Association would have made an excellent officer. Mr. Wurzburg, of Grand Rapids, will have an opportunity to prove his qualifications and will doubtless succeed admirably. Michigan abounds in good association timber.

Mr. J. W. Colcord, Secretary of the Massachusetts State Pharmaceutical Association, has established a drug-clerk employment bureau without charge for services to the members of the association. Fifty cents fee will be charged all others. Other State associations have adopted the same laudable system.

The Norfolk and Portsmouth Pharmaceutical Association have established permanent quarters at Main and Atlantic streets, Norfolk, Va. The association has a fine library and cabinets of pharmaceuticals open to the inspection of visiting pharmacists, contributions to which would be gratefully appreciated.

We learn that an attempt will be made to establish a flower farm on the island of Jamaica for the purpose of extracting odors for perfumes. It is rather singular that no attempt has been made in America so far to produce the pomades so largely imported from France. Mexico, "the land of flowers," should be admirably adapted for this field of industry.

The "Allgemeiner Oesterreichischer Apotheker Verein" recently held its quarter centennial meeting or "jubilaum" in Vienna. The occasion presented a fitting opportunity to tender a testimonial to Ober-Director Anton von Waldheim, the honored president of the International Pharmaceutical Congress recently held in Brussels. The meeting must have been an imposing affair, as the invitation read: "Herren erscheinen in Frack und weisser Cravate"

At the meeting of the Paris Pharmaceutical Association M. Planchon reported that steps had been taken with a view of opposing the bill intended to abolish military pharmacists. M. Crinon, Secretary-General of the Union of the Pharmacists of France, had received from leading pharmacists throughout the country encouraging reports of adhesion to the protest of the society There is, according to all reports, not much chance for the passage of the bill.

Complaints are being heard in Canada of physicians keeping branch drugstores and doing a general dispensing business. While the Ontario pharmacy act permits medical men to dispense their own medicines, it is rather straining the law for them to do general dispensing. The fact, however, that in several instances branch stores have in addition. been placed in charge of unqualified persons is clearlya violation, and was the subject of consideration at a recent meeting of the Ontario College of Pharmacy.

Citric acid is being manufactured in St. Petersburg from cranberries.

Japan is coming into competition with the seaports as a source of sulphur.

A Chinaman paid $10,000 for the annual privilege of selling opium in Panama.

Oleo and similar oils, under a recent decision, are not to be taxed as oleomargarine.

The consumption of opium and its preparation is said to be increasing in the prohibition counties of Georgia.

Two thousand dollars worth of opium in tea chests was confiscated at San Francisco the first week of this month.

The Duffy Malt Whisky Company, according to a recent press report, has failed, the failure being brought on by a sudden demand for a relatively small claim.

The proceedings of the Minnesota Pharmaceutical Association, as prepared and published by Secretary E. F. Allen, presents an attractive appearance and contains much matter of interest, especially to Minnesota druggists. The genial features of ex President Melendy form a fine frontispiece. The report of the Board of Pharmacy, by Secretary Sweeney, is pointed and practical. The Secretary observes many indications of a bright future for pharmacy in Minnesota; among the needed amendments to the pharmacy act he suggests that authority be given the Board to continue the registration of "assistant pharmacists" whose examinations may warrant a minor grade though falling somewhat short of that for a registered pharmacist; the abolition of all diploma distinctions as in the law of Ohio and Michigan, partially also in New York, is also recommended.

The immense amount of reading matter which is consumed by the American people, outside of their newspaper and periodical literature, may be seen in the following table of book publications that were issued during 1885. A similar classification for the year 1884 is appended for purposes of comparison, by which it will be seen that there was only a decrease of fifty-eight books on the number for the preceding year:

	1884.	1885.
Fiction	943	943
Theology and Religion	280	435
Law	450	431
Juvenile Books	358	308
Education and Language	227	225
Medical Science and Hygiene	209	188
Biography and Memoirs	178	174
Poetry and Drama	232	171
Social and Political Science	163	163
Description, Travel	136	161
Literary History and Miscellany	166	148
Fine Arts and Illustrated Books	81	140
History	115	137
Useful Arts	154	100
Physical and Mathematical Science	134	92
Sports and Amusements	51	70
Domestic and Rural	42	80
Mental and Moral Philosophy	19	25
Humor and Satire	29	18
Total number during year	4,088	4,030

The "GREAT ROCK ISLAND ROUTE" announces a series of grand first-class excursions to San Francisco and Los Angeles from Chicago, during the winter, the rate per round trip having been made extremely low. Tickets (with stop over privileges) good for going passage thirty days west of Missouri river, and good for return six months after date of issue, with choice of routes either via Council Bluffs or Kansas City. For Pullman Sleeping Car accommodations, or detailed information relating to this or subsequent excursions, address E. A. Holbrook, Gen. Ticket and Pass'r Agent C., R. I. & P. Ry., Chicago, Ill.

THE WESTERN DRUGGIST.

VOL. VIII. No. 12. DECEMBER 15, 1886. { Subscription Price, $1.00 per annum. G. P. ENGELHARD & CO., Chicago.

STROPHANTHUS HISPIDUS.

BY J. G. KIERNAN, M D., AND PROF. E. S. BASTIN.

The ancients used poisons not only as a dagger but as a cuirass. Modern pharmacology seems to be following in their footsteps in the latter particular, since results of value have been obtained from the study of substances used for warfare and in peace as a legal method of determining guilt or innocence. This field of pharmacological study had one advantage; the experiments originating it had been made on man and not on animals, and hence contained fewer elements of error.

This was the case with Strophanthus, which had long been used by Africans to poison arrows. It was long known as the Komté arrow-poison, and more or less perfect descriptions of its effect on man are to be found in the works of the majority of the African explorers. In 1870, under the general stimulus which was then given to African matters by the prevalent uncertainty about the fate of Livingston. the attention of the pharmacologist, Dr. Fraser,* was attracted to this plant, who then made experiments to determine its therapeutic value and isolated its active principle, strophanthine.

Strophanthus belongs to the natural order apocynaceæ; an order which has furnished several efficient cardiac stimulants, cardiac tonics and diuretics, like Apocynum Cannabinum, Aspidospermo quebracho, Alstonia constricta, etc.

It is a climbing plant, as its botanical name indicates (*strophos*, a twisted thong, *anthos*, a flower), and grows to an immense height. The Kombé and Shiré valleys are its chief habitat, though it is also found in the Gaboon, Guinea and Senegambia. The natives look upon the plant as having a "fetich," and after many ceremonies intended to prevent dangers from this fetich, beat the seeds into a pulp and smear it on their arrow points.

By some of the interi r tribes, for it is to a certain extent an article of commerce between the different tribes, it is first mixed with snake poison. The dwarf negro tribes use this poison largely in certain incantation ceremonies.

The plant bears large follicles which contain from one hundred to two hundred seeds. The follicles are nine to twelve inches long (some specimens, probably from young plants, are but three and a half inches), and about three-quarters of an inch in diameter in the thickest part, which is just above the base, thence gradually tapering to the apex; slightly elliptical or nearly circular in cross section; straight, or but slightly curved. The pods are brownish-gray exteriorly, woody, longitudinally striate and fibrous, and also somewhat furrowed on one side. The inner wall of the pericarp readily separates from the outer wall, is non-fibrous, fragile, yellow and polished on its inner surface.

*The Practitioner, 1871.

The placenta is double and much convoluted. See Figs. 1 and 2.

The seeds vary somewhat in size and shape, but are mostly lance-oblong, flattened, with a longitudinal rib or prominence on one side, and prolonged at the apex into a long stipitate coma, as shown in Figs. 3 and 4. The seeds average about five-eighths of an inch in length by about three-sixteenths of an inch in breadth. The stalk of the coma is from one and a half to nearly two inches long and the delicate unbranching white hairs of the coma nearly as long. The testa of the seed is covered with a delicate pubescence and has a greenish yellow cast. The inner seed-coat or endopleura is thickish, tough, white, and closely envelopes the embryo. There is no albumen. The embryo has two oblong-lanceolate nearly equal cotyledons and a prominent canticle, but the plumule is not developed. The seeds have very little odor; the taste is oily and peculiarly and intensely bitter. Fig. 5 represents one of the seeds magnified 2⅔ diameters. Fig. 6 represents the same with the testa removed and magnified in the same proportion. Fig. 7 represents the embryo removed from the seed-coats also magnified 2⅔ diameters. Fig. 8 represents another view, showing the two cotyledons in longitudinal section.

Hardy and Gallois[1] isolated a non-poisonous principle from the seed hairs which they called inneine. The preparation thus far chiefly used has been the tincture of the seeds. One ounce of the crushed seeds (carefully selected, only ripe ones used), is first deprived of oil by ether, since strophanthine is, according to Fraser, practically insoluble in ether; the ether, however, should be free from alcohol. The seeds are then percolated until half a pint of tincture is obtained. Dr. Ringer[2] has, however, found that the ethereal oil, while not possessing as much activity as a one per cent. solution of the arrow poison, is not inert. The seeds are the portions most suitable for use in medicine.

The drug is as powerful a cardiac tonic as digitalis, but its action on the bloodvessels is less intense, which renders it of value in many cases where digitalis is rather undesirable.

Strophanine, the active principle, is found distributed in varying quantities in the plant, but in greatest quantity in the seeds.

Mr. Martindale's[3] process is as follows: The seeds in coarse powder are percolated with five times their weight of ether, specific gravity 0.720. A deep emerald-green liquid with a claret colored fluorescence results. This deposits a small quantity of crystalline sediments. The seeds yield 27 per cent. of very bitter dark-green ethereal oil but slightly soluble in rectified alcohol. When the ether is evaporated from the marc, this is slowly

[1] Archives de Pharm., 1877.
[2] Pharm. Journal, Nov., 1886.
[3] Pharm. Journal, Nov, 1886.

Fig. 1.

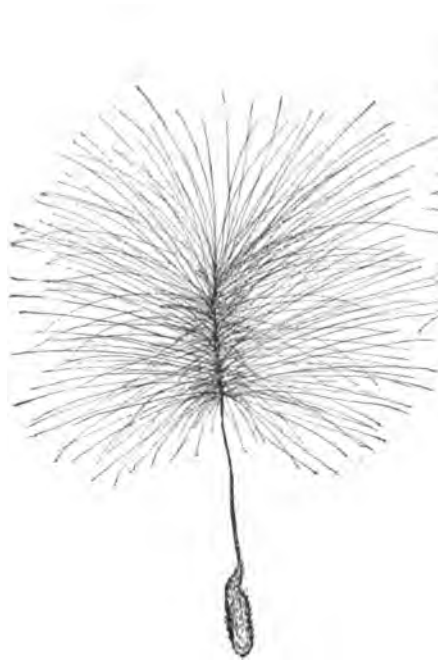


Fig. 3.

Fig. 4.

Fig. 5.

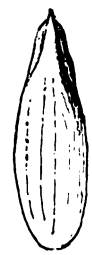


Fig. 6.

Fig. 7.

Fig. 8.

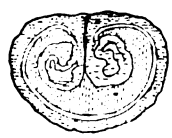


Fig. 2.

DESCRIPTION OF ILLUSTRATIONS.

Fig. 1. Pod, two-thirds natural size.
Fig. 2. Cross section of pod.
Figs. 3 and 4. Seeds, two-thirds natural size.
Fig. 5. Seed, two and two-thirds diameters.
Fig. 6. Same as Fig. 5, deprived of outer coat.
Fig. 7. Embryo, two and two-thirds diameters.
Fig. 8, Another view of Fig. 7, showing two cotyledons.

POD AND SEEDS OF STROPHANTHUS HISPIDUS.

percolated with rectified alcohol to produce eight fluid parts. Percolation is continued fractionally until a second one in eight percolate resulted and then a one in four; these two percolates are bitter and colorless, and although their specific gravity is that of the alcohol used, yet the marc is still bitter. The specific gravity of the first percolate is nine points higher. From the mixture of these three percolates, a one in twenty tincture results. A one in eight tincture of the seed hairs has the same yellowish-green color as a one in eight tincture of the seeds.

The experiments of Dr. Bradford indicate that tincture made from the seed, pods and hairs, are all active, but in varying degree. Lauder Brunton's experiments[4] indicate that strophanthus ranks next to digitalis and casca as a cardiac tonic and diuretic and far superior to convallaria, squills, etc. It seems probable that in conditions where a cardiac tonic is needed but excessive action on the bloodvessels is undesirable, strophanthus will take the place of digitalis, more especially as strophanthus is not cumulative. The dose of a one to eight tincture is two to four minims. American experiments thus far made with the drug, tend to support Fraser's[5] results. The superstitions about the fetich nature of the drug interfere somewhat with its supply. Seeds planted in the Edinburgh Botanic Gardens have produced healthy plants, and should the drug maintain a permanent position in therapeutics, cultivation of the plant will readily insure a supply.

THE RELATIONS OF PHYSICIANS TO THEIR MEDICAL SUPPLIES.

BY DR. EDWARD R. SQUIBB, BROOKLYN.*

There are a large number of physicians who, for both therapeutics and materia medica, depend largely,—if not mainly,—upon the traveling salesmen and their pamphlets and lists, and on the advertising pages of the medical journals. The relation of this class to their supplies is most simple and most favorable. They come in very direct and very close contact with the sources of their supplies, and have much less trouble than any other class of artisans. With others smarter, more ingenious and more plausible, than they, to think for them, and then to apply vigorous mercantile principles to their wants thus suggested for them, they have the least practicable amount of thinking for themselves to do, in regard to their remedies and the novelties of the day, and therefore, as they argue, more time to think of and study out their cases. To this class the ready-made prescriptions in the form of beautifully colored and coated pills, or palatable solutions and mixtures, do not appeal simply as gratifying various degrees of laziness, or indisposition to think for themselves, but they present themselves as true labor-saving devices, skillfully prepared for the over-worked ability to use them, and as giving more time for the higher and more scientific reaches of the profession. Perfunctory routine in the observation of cases soon leads to a routine practice of treatment, and then what can be more convenient or more desirable than ready-made supplies in an attractive form, easily accessible. For example, the fashionable "nervous prostration" being observed, what can be more simple or more easy than to order Smith's "coated pills of Valerian, Quinine, Iron and Zinc, No. 1," to be taken three times a day, a draught of Jones' Effervescent Salts of Bromide of Potassium, Caffeine and Cocaine in solution at bed time. There are few difficulties in this practice of medicine and none in the way of medical supplies, for the physician himself may easily have a supply of the medicines at 10 per cent. off from "list prices," or may send for them to the nearest town or village, where a pharmacist or a general store will have them at a cost of 25 per cent. off from "list prices." But, should the traveling salesman for that district have been a fifteen hundred dollar a year man, instead of a man at three thousand dollars, he may not have succeeded in leaving the articles in that town or village. Then, in twenty-four hours, by telegraph and express, they can be obtained from the nearest wholesale druggist or jobber, who buys them of the manufacturers at 10 per cent. less than the 25 per cent. off price of the town or village dealer. Whether this last 10 per cent. discount is really "the bottom" few people know, but probably it is not.

If the patient sees that Smith's pills "worked well," he might want them again, or recommend them to his neighbors. In such a contingency the physician would be likely to be avoided. Unless he had successfully secreted the name of the pill, the patient or neighbor would go directly to the store with the pill box, or its number and date, and would buy his medicine at say "list price." The physician gets 10 per cent. below this. The pharmacist or storekeeper gets 15 per cent. below the physician, or 25 per cent. below the consumer. The wholesale druggist or jobber gets 10 per cent. below the pharmacist, or 32.5 per cent. below the consumer, so that if there should be no other discount below this, the manufacturer realizes for his wares 67.5 per cent. of his list prices, or 32.5 per cent. below what the consumer pays; and as the manufacturers' profit should not be less than 15 per cent. upon what he realizes for his supplies, this brings the net cost of his products to him, at about 57.4 per cent. of what the consumer has to pay for them if he pays "list prices." These are all just and fair profits. Not at all greater than is right and expedient and necessary to the transaction of a fair and honest business if such business is to be moderately successful, and pay as many middle men. These middle men are the so-called distributors in the economy of trade, and are considered indispensable between the manufacturers and consumers.

Although there is probably a very large amount of this business done at about these figures, the constantly increasing number of manufacturers and specialties, and the intense competition in trade, all the way along the line from the consumer to the base of supply, introduces a great deal of what is called "under-cutting" prices. The town pharmacist to attract patronage away from his competing neighbors will often reduce his profits by offering to retail at prices 5, 10 or 15 per cent. below

4. Pharmacology.
5. British Medical Journal, Vol. II, 1885.
*Read before the New York State Medical Association at the Annual Meeting of the Association in November, 1886. Reprinted from the Pharmaceutische Rundschau.

"list prices,"* and to attract physicians to his pharmacy, may offer to double their 10 per cent. profit upon what they want Such pharmacists are reproached with being "cutters," and when attempts are made to coerce them back into the ranks, or to boycott them, they take up the defence of advertising themselves as "cutters" to attract buyers at low prices. Then if they sell double the quantity in a given time at half the uncut profits, they are as well off as those who sold half the quantity in the same time at the fair normal profit intended by the manufacturer in his scheme of discounts.

The objects of this recital are to show that there is but little difficulty or obstruction in the relations of this class of physicians, to their medical supplies; and that the principal reason of this great success is that every one along the whole line of trade, from the manufacturer to the physician and patient, makes a fair money profit out of the business; and then to bring into contrast with this condition of things, other conditions which co-exist in the common markets for medical supplies.

There is another class of physicians who are independent of the traveling salesman and of the advertising pages of their journals; who do more of their own thinking, and who find time not only to study out their cases but also to give equal attention to the selection and adjustment of their remedies to the individual cases. Through habits of close and well trained observation they acquire ability to know whose testimony to take in aid or correction of their own experience, and ability to know whom to distrust.

With the progress of their art, their therapeutics and materia medica become more simple yet more vigorously applied. They want few combinations suggested to them, but rather want each individual case to suggest such combinations as may be indicated by symptoms which may vary from hour to hour, or day to day. To many physicians of this class complex prescriptions and combinations are very infrequently used. If in any case there should be distinct indications for more than one therapeutic effect, the agents required for such effects are used not together, but alternately, thus avoiding the risks of both chemical and physiological incompatibility and allowing the doses to be varied with the increase or decrease of the separate indications.

In all such practice each agent of the materia medica acquires its maximum importance; and as an indispensable condition to maximum importance it must be of standard quality. The standard of quality for the accepted and established agents of the materia medica is the Pharmacopœia, and this class of physicians rarely go beyond its scope, unless it be upon satisfactory evidence that some new agent may better fulfill their indications than the old ones. And in this connection it may be said that very many of this class are wisely cautious and suspicious of novelties, first because it is impossible to discriminate between those which are of the catchpenny order and those which are not; and secondly, because novelties in their most attractive period have no standard of identity or quality.*

Now, what are the relations of this class of physicians to their kind of medical supplies?

*A single retrospect will serve to emphasize and justify this caution. Not less than five different substances were sold as Chian Turpentine, and some of the strongest cases of the many published cures must have been treated with clumsy imitations.

The physicians and patients who want the highest attainable quality and least complexity in medical supplies, and who apply ordinary common sense to know when they get them, may not be in largest number, but yet they are sufficiently numerous to create an active, earnest and large demand, and this by the laws of trade should be met with a plentiful supply; and the demand is thus met, for there is always an abundant supply of excellent medicines in all the mercantile centers of trade. But away from the central markets the difficulty of obtaining them is increased. The statement that there is at all times an abundant stock of good medical supplies at a few of the principal commercial centers, and that such become more and more scarce in proportion to the distance from these centers, will hardly be questioned; and if true this indicates very clearly that the difficulty of access to this stock is simply a difficulty of distribution. This is equivalent to saying that the distributors or middle men,—namely, the wholesale dealers and jobbers throughout the country, and the brokers and agents who represent them in the few principal commercial centers, do not favor the distribution of this class of supplies. Then comes the question, why they do not favor this class of supplies and distribute them as freely as they do other kinds, since, everything else being equal, all dealers, from first to last, will always prefer to deal in good articles, and as a rule have knowledge enough to discriminate between the good and the bad.

The answer to this must be somewhat as follows:

Briefly stated, it is because they are not permitted to make as much money on good as on inferior supplies and the good are disfavored because they offer a standard for comparison or contrast with the inferior in quality, which tends to throw a distrust upon the latter class that would not be felt in the absence of a standard class.

The merchant, as such, follows his business to make money by it, and the dealers in medicines are no exception to the rule. Medical supplies to them are simply merchandise, and are dealt in very much as railroad supplies, groceries and dry goods are, and the invariable and inevitable law of trade is to favor the articles upon which most money is to be made. In conformity to this law of trade, if most money could be made off the best goods, then the best would always lead in all markets—not only at the centers, but also down the whole line of distributors, to the consumer. But another general and inevitable law comes into operation just here. Superiority in quality necessarily involves a proportionately higher cost of production. As an illustration, Digitalis, throughout its collection, preparation, preservation and transportation is an article of merchandise simply, and continues to be so through four or five different merchants, until it reaches the hands of the special and ultimate variety of merchants, the pharmacist and the physician. These latter change the whole character and interest of the commodity. It is no longer simply merchandise in the common acceptation of the word merchandise, but has acquired another kind of value and importance from the fact that the pharmacist and physician are the direct and close representatives of numbers of patients suffering from diseased heart-action curable or controllable by this agent. Now Digitalis which is collected

only in the proper season of maturity of the plant, and from second year plants only;—which is dried with proper skill and care;—packed and transported so as to avoid damage,—internal as well as external;—preserved so as best to avoid change, and not held for price until damaged by age, costs much more all along the whole line of its various markets than the same drug mowed down with less regard to season and age of plant, and pushed through the markets with least possible expense. Yet to the dealers, both are simply Digitalis,—the merchandise,—to be bought as cheaply and sold as dearly as practicable. Digitalis is rarely used in substance, so somebody along the line of its markets, while it is simply merchandise, and in order to make money by it, converts it into powder, or into fluid extract or extract. Up to this point there has been a fair, but not entirely trustworthy chance of discriminating between good Digitalis and bad, but here all, or almost all landmarks of quality and even identity are lost, so that the most expert pharmacist and physician cannot tell whether the preparation is made from good or bad Digitalis. If two preparations, one from good and the other from bad Digitalis, reach the physician or his patient at the same cost, those who supplied them,—all the way along the line of distribution,—will have made more money upon the bad than upon the good; and every discrimination of quality being impossible each dealer will favor that kind upon which he makes most money, and will discourage and disfavor the sales of that upon which he makes least money, in proportion to the smallness of his profits. This, as a general rule of trade, is inevitable, and the rule of itself is not immoral nor bad. In certain directions where the applications of medicines and of food are involved a distant and not very distinct immorality and injustice are discoverable, but they are commonly too remote to have a strong influence in the intense struggle and competition of trade.

The pecuniary interests of merchandising, although by no means the only important interests recognized, are yet perhaps the safest and the surest upon which to rely for persistent uniform results, and if this be true the best way to secure superior quality in merchandise is to secure, or insure for such a quality superior profits to the dealers. Make it the pecuniary interest,—not only of one dealer or manufacturer, but of the whole line of dealers and distributors from producer to consumer,—to offer superior quality and then it will be done, and the stock of good supplies will not lie in the few principal markets, from difficult accessibility, but will be freely distributed wherever there is a demand for them, and by free distribution and easy access the demand will constantly increase, and the natural tendency will be to keep up the quality for the sake of the profit, and the multiplication of profit by increased demand.

To resume the illustration by a single article of the materia medica, suppose the skilled collector of Digitalis could command 20 cents per pound for his product against 10 cents for the common inferior drug, this would support and encourage progress in his superior skill and care. Then suppose the second owner or dealer should buy both kinds at these prices, and in selling to third hands, make 25 per cent. profit on each. This would be 5 cents per pound on the good and 2½ cents on the inferior, and he need handle only half as much of the good to make the same amount of money as on the inferior, or in handling the same number of pounds of each would make nearly twice as much money on the good. Then, for the sake of brevity, suppose that two or more middlemen or distributors be avoided, and the pharmacist has the choice between Digitalis at 25 cents and at 12½ cents per pound. If he should buy some of each kind, and make powder, fluid extract and extract separately from both kinds, the one set of preparations would cost him much more than the other, and yet in sensible properties and to all easy tests they would be indistinguishable, the one set from the other. The question is thus narrowed down to how to induce the average pharmacist to buy the better quality rather than the inferior. The pharmacist's necessary expenses in proportion to the amount of his business are enormously heavy,—far beyond those of any other ordinary business, and he is usually cramped by over-competition and want of capital; still if he could make the same profit on both he would prefer the better and dearer drug. If in the average pharmacist the mercantile element should predominate over the pharmaceutical, he might use the inferior kind as being "just as good," or he might use both and offer the products of each at corresponding prices, keeping the profits equal. But if it be desirable to secure his strong and active preference for the better quality, so that he shall use that kind only and always, the best single inducement to offer him is better prices, and therefore more profit.

And here the physician is reached in his relations to his medical supplies. There is no doubt as to where the true interests of his patients lie, and their interests and his are the same. Therefore he may be considered as being virtually the consumer. Now let him inquire of himself how far he keeps the screw of price and cost of his supplies applied to the druggist and the jobber and the pharmacist, and he will then see that at least an important share of the responsibility for inferior medical supplies rests upon him.

He frequently, if not generally, knows what the prices are in first or second hands, from the price lists published in his journals, or sent to him from their sources, and he generally objects to an advance on these prices that is at all adequate to securing the best quality in his supplies. When the intermediate profits along the line of middle men or distributors are kept out of sight, as they are in the ready-made prescriptions and specialties in general alluded to in connection with the class of physicians to whom they are addressed, the difficulty about supply and profit is comparatively trifling. Let the class of physicians now under consideration accord or allow to the simple officinals of the materia medica the same scale of profits,—namely, first 10 per ct., then 15 per ct. more, and then 10 per ct. more,—to those who handle these important agents along the line of their supplies, and they will probably soon cease to have much difficulty in obtaining such supplies as they need for their important art.

The evils of ignorance and excessive over-competition and even of mild degrees of fraud are so general as to seem at present inevitable, and the surest safeguard against their influences upon so important a interest as that of the sick and the

suffering would seem to be to make the better way pay better. Physicians themselves are generally poorly paid for their art and skill, yet their art and skill to their communities will come to be worth still less than they receive for them, if they gradually more and more lose control of the quality of the supplies, which render their knowledge and skill available in the treatment of disease.

RADEMACHER.

BY N. P. PEARSON, M. D.

Having thoroughly studied Rademacher and his school, I may here present something about his teachings and correct several erroneous statements made concerning him. Rademacher was a pupil of the celebrated Dr. Hufeland, and graduated at Berlin in 1795. He was never in Hamburg nor Vienna (as the U. S. Dispensatory says—vide Sodæ Nitras), but practiced in Goch, a village in Western Prussia, near Holland, where he died in 1850, at the age of seventy-five.

It is a well-known fact that the number of diseases is comparatively small for which remedies are staple and certain. These include malaria, syphilis, anæmia, itch, scurvy, bronchocele, delirium tremens, worms and such other disorders, the cause of which is obvious. Only so far has the medical fraternity with the most ardent desire and after centuries of incessant efforts been able to display any certain power of curing special maladies. The remaining vast majority of diseases are still left to a haphazard, nominal or do-nothing treatment with all its uncertainty, subsequent disappointment, and failure.

Rademacher observed in 1815, that the most acute diseases promptly yielded to nitrate of soda, but next year not at all, while nux vomica then proved to be the triumphant remedy. He became thereby very suspicious of the usual nosological treatment, and, recognizing the infinite power of nature to modify diseases or produce innumerable combinations or varieties he after further research positively repudiated the old method of stereotyped diagnosis and stereotyped treatment. By a diligent study of Paracelsus and other members of the iatro-chemical school, and with a long and well-sifted experience, directed and enlightened by an independent spirit and a due endowment of that philosophical skepticism essential to all scientific investigation, he succeeded in extending the direct medication much further simply by a more habitual search for the causal lesion or more complete diagnosis and the careful application of the remedies according to their basic action.

In diseases, such as pneumonia, pleuritis, erysipelas, variola, scarlatina, croup, diphtheria, dysentery, septic anæmia, puerperal fever, rheumatic fever, etc., he urged an exact diagnosis of the present primary blood lesion or the constitutional type as does Erichsen in his celebrated work on surgery, and which Fothergill says should be printed upon the brain-cells of every medical student.

In diseases, such as asthma, diabetes, albuminuria, dropsy, bronchitis, epilepsy, cholera, neuralgia, dyspepsia, diarrhœa, jaundice, morbus Baldwin, hysteria, menstrual disorders, etc., he urged a careful and minute search for the basic lesion. The uroscopy is here highly esteemed as a very important factor for correct diagnosis, and is diligently practiced. The epidemical nature of diseases is closely watched with special attention, and when the epidemical remedy is found, we are in possession of a perfect charm.

The physiology, pathology and physical diagnosis being at his time—fifty or sixty years ago—in their infancy, he found it necessary to employ more extensively the tentative method as we are justified in doing in obscure cases, as for example in malaria, syphilis, gout, worms, etc. In order to do this safely he reduced the strength of several favorite remedies to their minimum of certain action. Hence his so called "aqua."

The modern pathology has entirely confirmed the conclusions he made from clinical observation, viz: That a long array of very different ailments may arise from some single lesion, as we see from anæmia, cholorosis, uræmia, and his epidemical experience points strongly in favor of the present idea of the parasitical origin of many diseases.

Rademacher was evidently gifted with a rare power of observation and reason, he was of noble heart and was dearly devoted to his profession. He has been greatly admired, almost adored by his followers, but he modestly calls himself a small town-practitioner. Dr. Gutceit confessed in 1873 that nine years previously he merely treated his patients, but from Rademacher he learned to heal them during the twenty-five years comprising the subsequent part of his practice. Dr. Kissel, in 1872, designated him as the greatest therapeutist of his century. Dr. Thienemann, his necrologist, says, that "the name of Rademacher will never die out, so long as the art of healing is practiced scientifically." Niemeyer calls him a wonderful offspring of a clear perception of the errors and failings of the traditional therapeutic rules.

I have myself in my practice derived immense benefit from the study of Rademacher and his school, for I have thereby learned to discriminate more between primary and secondary lesion, gained a more constant habit in searching out the basic lesion and applying the remedy according to its well-localized action. I have thus frequently succeeded in curing diseases of long standing, which had baffled the sincere efforts of otherwise very skillful and most worthy physicians.

Is it any wonder then, that a disciple of Rademacher may exclaim, how long shall we continue to repeat the follies of the past, base our treatment on the vague and superficial form of the common nosology, thereby too often doctor names, recommend remedies for the mere shadows of disease and roll the stone of Sisyphus in utter disgust?

Can we under the present circumstances greatly blame the many prominent physicians, who now claim that castor oil, morphine and placebo is all the materia medica need! How long shall we live without any distinct and well established laws of therapeutics? Both "contraria contraris" and "similia similibus" have decidedly failed to give the desired and expected satisfaction. Rademacher advanced simply the term of healing.

CHICAGO, December 1, 1886.

ICHTHYOL IN SHEETS.—Dr. Gece (Gaz. des Hop.) makes ichthyol in thin sheets, cuts it into needed sizes and applies to the diseased part. It forms an artificial skin requiring removal every fourth day.

DRUG MILLING.*

BY H. D. GARRISON, PROFESSOR IN CHEMISTRY CHICAGO COLLEGE OF PHARMACY.

Query No. 8.—What drugs can be successfully ground or contused to the required degree of fineness for percolation by the use of hand-mills, mortar and pestle, or both?

This query may be answered in two widely different ways, both of which would be correct and responsive to the interrogatory.

First, it may be said that all the drugs required for percolation can be successfully ground or contused to the required degree of fineness for percolation by the use of hand-mills, mortar and pestle, or both. Time and perseverance would finally be crowned with success in an attempt to powder or contuse leather, sheet iron or gutta-percha.

Our second answer is that human force can no more compete with steam power in grinding drugs than it can in sawing lumber; therefore no drugs required in any considerable amount can be advantageously ground or contused in hand-mills or mortars. Those who set no value on their time and labor may certainly save a few cents by grinding their own drugs, but the dirt, noise and odor created usually make the experiment expensive and undesirable.

Of course the question of purity is what the author of the query mainly had in view, and certainly it cannot be successfully denied that some rather poor powders are to be found in the drug market, but we believe that adulteration is principally confined to the spices and such other articles as grocers and tobacconists use, and which are offered at prices which betray their true character. A pretty extensive acquaintance with drug millers has satisfied the writer that they are about as honest as other people. Give them a living price and most of them will give you pure goods—of the remainder you need not buy.

Drugs may be classified, with reference to the ease with which they may be ground, as follows:

Very irritating, extremely tough, moderately tough, friable, and very friable.

Class 1. Very Irritating.—Aconite root and leaves, capsicum, colocynth, ipecac (to some persons), sanguinaria, veratrum viride.

Class 2. Extremely Tough and Fibrous or Woody.—Brayera, colchicum seed, colocynth, gelsemium, glycyrrhiza, gossypium, hæmatoxylon, krameria, mezereum, nux vomica, pareira, quassia, sarsaparilla.

Class 3. Drugs Moderately Tough and Difficult to Grind Finely.—Buchu, calamus, castanea, chirata, cimicifuga, cinchona, conium seed, cypripedium, dulcamara, erythroxylon, eucalyptus, eunonymus, eupatorium, grindelia, ipecacuanha, iris versicolor, juglans, leptandra, lobelia, pilocarpus, rhus, rumex, scutellaria, senega, senna, serpentaria, spigelia, stillingia, uva ursi, veratrum alb.

Class 4. Friable Drugs, Easily Ground.—Aconite root and leaves, arnica root, belladonna leaves, cannabis, chimaphilla, digitalis, frangula, hydrastis, hyoscyamus, physostigma, podophyllum, rubus, taraxacum, valerian, xanthoxyllum, zingiber.

Class 5. Very Friable if Dry.—Orange peel, calumba, colchicum root, cubeb berries, cornus Florida, ergota, gentiana, geranium, guarana, malt, matico, prunus, rheum, rosæ, sabin, scilla, viburnum.

I have not ventured to extend this list beyond the articles involved in the manufacture of the officinal list of fluid extracts. In a majority of cases the Pharmacopœia requires the drug to be in No. 60 powder, which is but little coarser than the impalpable powders of the trade. By hand-power such powders can only be made from woody or leafy substances by long and repeated grindings. Of course the ligneous and bast fibers, which are the last to pulverize, might be thrown away without much loss, but that would change the strength of the part retained if it were afterward used by weight. When hand-power is employed in grinding drugs the temptation to stop far short of the Pharmacopœial requirement as to fineness is so great that I fear that but few who turn the mill or wield the pestle can resist it. In looking over the officinal requirements as to fineness of powders I have been surprised and amused to note that for the purpose of making a tincture some drugs are required to be four times as fine as when used to make a fluid extract, and *vice versa*.

*Read before the Illinois Pharmaceutical Association.

TALCUM FILTER.

Talcum as a filtering medicine, recommended by Dr. Fr. Hoffmann, is reported by the Committee on the National Formulary to be better, cheaper, and affording quicker filtration and clearer filtrates than other media previously used. Finely powdered white talcum should be well washed with hot water slightly acidulated with hydrochloric acid, and again washed with pure hot water until no trace of acid can be detected. It is then dried, and may be used by adding the dry powder to the cloudy mixture, and filtering through paper; or the talcum filter may be constructed in the following manner:

Make a double filter out of white filtering-paper, and insert it in a quart glass funnel; mix about half an ounce of talcum with one pint of hot water in a bottle and shake well, then pour it immediately upon the paper filter, taking care so to distribute the mixture that the entire filter from bottom to top is evenly covered with the fine powder. The water will be found to pass off rapidly and perfectly clear, after which the filter is ready for filtering any cloudy mixtures. The same filter may be used frequently for the same substances; but after it has been used the funnel should be covered with a glass plate, to exclude the dust and preserve the filter clean for the next operation.

LANOLINE, according to M. Rohart (British Colonial Druggist), has great affinity for sulphur, absorbing about 110 times its own bulk of H_2S, thus sulphurized it saponifies with great facility, even in the cold, soap being produced in 50 minutes. From the penetrative power of lanoline, and the value of sulphur in cutaneous affections, these facts should be of great interest. An English chemist has independently arrived at similar results.

A STUDY OF THE U. S. P. METHOD OF ASSAYING OPIUM.

BY T. J. WRAMPELMEIER AND G. MEINERT.

Read at the meeting of the Michigan State Pharmaceutical Association, Grand Rapids, Oct. 14, 1886.

The U. S. Pharmacopœia gives the following process for the assay of opium, viz.: 7 Gm. of the drug are triturated with 3 Gm. of freshly slaked lime and 70 C.c. of water in a mortar. The mixture is then placed upon a filter, and 50 C.c. of filtrate taken to represent 5 Gm. of opium. To the 50 C.c. of filtrate are added 5 C.c. of alcohol, 25 C.c. of ether, and 3 Gm. of ammonium chloride, and the solution allowed to stand for twelve hours. The precipitated morphine is then filtered out, using counterpoised filter papers, dried at a temperature of 55°—60° C. and weighed. By multiplying the weight by 20, the per cent. is obtained.

This method of assaying opium was first suggested by two French chemists, Portes and Langlois (1881: Jour. de Pharm. et de Chim., New Rem., 1882, 64). These chemists assumed that 53 C.c. of the filtrate must be taken to represent 5 Gm. of opium, whereas the U. S. P. process directs that 50 C.c. of the filtrate be taken as equivalent to 5 Gm. of opium. Mr. Conroy, in a paper read before the Br. Ph. Ass. (1884: Pharm. Journ. Trans. [3], 15, 473), claimed to have found by experiment (though he does not describe his experiment) that 52 C.c. must be taken to represent 5 Gm. of the drug, saying that these 2 C.c. must be allowed for increase of bulk due to the extractive matter dissolved by the water, and that, by taking 50 C.c. as the U. S. P. directs, a serious mistake was made.

In order to decide this point, namely, whether 50 C.c. or 52 C.c. of filtrate should be taken, it was necessary to ascertain whether the total liquid, that is the 70 C.c. of water plus the extractive matter dissolved thereby, was really more than 70 C.c.; for if 52 C.c. have to be taken to represent 5 Gm. of the drug, the total liquid must be 72.8 C.c.

To this end the following experiments were made: 7 Gm. of powdered opium were taken, dried at 100° C. and transferred to a flask. A flask was used instead of a mortar, in order to avoid loss by evaporation; 3 Gm. of freshly slaked lime and 70 C.c. of water were added, the whole thoroughly mixed and allowed to stand for half an hour. The mixture was then placed upon a filter and (instead of 50 C.c.) the liquid was drained off as much as possible by means of an aspirator. The filtrate was weighed, and its sp. gr. taken. In order to determine how much liquid there was left in the opium on the filter, the filter was weighed with the funnel, dried at the 100° C. to constant weight, and again weighed. By multiplying the loss in weight by the sp. gr. of the filtrate the weight of the liquid left in the opium was found. In the same manner, the weight of the liquid left in the macerating flask which could not be brought upon the filter was determined. The weight of total liquid was then found by adding to the weight of the filtrate the weight of liquid left in the opium on the filter, and that of the liquid left in the flask, and from this the total volume, i. e., the 70 C.c. plus the extractive matter dissolved thereby, was calculated by dividing by the specific gravity.

On working two samples of powdered opium in this way, the volume was found to be in the one case 70.83 C.c., and in the other it was 70.85 C.c.; whereas, according to Conroy, the volume should be 72.8 C.c. Since the U. S. P. directs to take opium in any form, it seemed possible that, if lump opium which contains some moisture be used, the volume of liquid might be increased. A sample of lump opium was taken which contained 11 per cent. of moisture. 7 Gm. were weighed off, cut into small pieces, and transferred to a flask. Then the lime and 70 C.c. of water were added, the whole thoroughly mixed by means of a stirring rod until a uniform mixture was obtained. The mixture was then allowed to stand for half an hour and finally placed upon a filter. The filtrate was weighed and its specific gravity taken, and the weight of the liquids left in the opium on the filter, and that of the liquid left in the flask, were calculated in the above-described manner. Experiments made with two samples gave the following results:

	Sp. Gr. of Filtrate.	Per Cent. of Morph.	Tot. Liqu'd.
Exper. I.	1.01270	8.3 per cent.	70.39 C.c.
Exper. II.	1.01265	9.04 per cent.	70.19 C.c.
Average,	- -	- - -	70.29 C.c.

This gave an average increase of 0.29 C.c. Then a very moist lump opium containing 20.7 per cent. moisture was used, and the volume of liquid was found to be in this case, 70.61 C.c. These experiments, therefore, would seem to prove that the volume of filtrate directed to be taken by the Pharmacopœia (50 C.c.) is more nearly correct than that directed by Mr. Conroy (52 C.c.).

In the paper of Mr. Conroy attention is called to the fact that some morphine is held in solution by the mother liquor. Mr. Herbert Lloyd, in an article (American Druggist, 14, 221), also states that there is enough morphine held in solution to cause an error of 1.2 per cent. to 1.8 per cent. He believed that the alkaloid is dissolved by the excess of ammonia which is set free when ammonium chloride is added. The reaction may be given by the following equation:

$$Ca(OH)_2+2NH_4Cl=CaCl_2+2NH_3+2H_2O.$$

He also says that morphine and lime are mutual solvents, that is, if morphine is added to lime-water, more lime will be taken into solution, and, hence he comes to the conclusion that the greater the amount of morphine present in the opium to be assayed the greater will be the amount of lime and of ammonia set free, and as a result the greater the loss of morphine. Mr. Lloyd based this assertion upon the results of experiments made with weighed quantities of morphine, slaked lime, and ammonium chloride. He found that 50 C.c. of lime water, in the presence of morphine, would dissolve 0.128 Gm. of $Ca(OH)_2$ or 0.095 Gm. of CaO.

In order to determine the amount of lime held in solution in an actual assay, the following experiments were made: The mother liquor of the 50 C.c. filtrate was acidulated with sulphuric acid, evaporated to dryness, and heated in a platinum dish, and the lime estimated as $CaSO_4$ which was calculated to CaO. In order to determine the relation between the proportion of morphine and amount of lime, a lump opium containing 7.88 per cent. of morphine, and for another experiment a powdered opium containing 11.4 per cent. of mor-

phine, were used, and the following results obtained:

	Amount of Morphine.	Amount of Lime (CaO).
Opium (lump),	0.394 Gm.	0.202 Gm.
Powdered opium	0.570 "	0.231 "

So we see that the more morphine there is present the greater is the amount of lime dissolved, and this experiment would seem to support Mr. Lloyd's statement with reference to the mutual solvent power of morphine and lime, although the increase in the amount of lime dissolved is not in the same ratio as the increase in the amount of morphine present. The amount of lime found to be present in the assay liquor, according to our experiments, is, however, about twice as large as the amount of lime contained in the 50 C.c. solution according to Mr. Lloyd, showing that other constituents of opium assisted in dissolving the lime, and it is not improbable that these constituents are present in varying proportions.

In order to determine now how much of the alkaloid is dissolved in the mother liquor after crystallizing the morphine, a solution was made to correspond as nearly as possible to the assay liquor, and then a certain amount of morphine was used. The amount of lime (CaO) found to be present in the mother liquor of the lump opium was 0.202 Gm. This amount of lime was taken, slaked with a little water, transferred to flask and 50 C.c. of distilled water were added. On adding then 0.500 Gm. of pure morphine, it was found that some of the lime was left undissolved. Therefore, in another trial, a little less calcium oxide was used, the 50 C.c. of water and 0.500 Gm. of morphine added. Then, as in the U. S. P. process, 5 C.c. of alcohol and 25 C.c. of ether, and 3 Gm. of ammonium chloride were added, and the mixture allowed to stand for 12 hours. The amount of morphine obtained was 0.442 Gm., showing that of the 0.500 Gm. taken 0.058 Gm. was retained in solution in the mother liquor.

In order to find out whether the morphine is held in solution by the excess of ammonia liberated or by the excess of ammonium chloride, the following experiments were made. By calculation it was found that, when 0.202 Gm. of calcium oxide are in solution, 0.399 Gm. of ammonium chloride are decomposed. Subtracting this from 3 Gm., we find that in this case there is an excess of 2.61 Gm. of ammonium chloride present in the assay liquor. This amount of ammonium chloride was then dissolved in 50 C.c. of pure water and 0.500 gm. of morphine added, and the solution allowed to stand for 12 hours, after which time 0.500 Gm. of morphine had lost 0.135 Gm. The amount of ammonia which would be set free in such assay was also calculated, and a solution of 50 C.c. of pure water containing that amount of ammonia was found to dissolve after 12 hours' standing 0.110 Gm. of morphine. Thus it was shown that both ammonium chloride and free ammonia in solution exert a distinct solvent action upon the alkaloid. It is therefere probable that by using about 1.000 Gm. of ammonium chloride instead of 3.000 Gm. as suggested by Mr. Conroy, the amount of morphine held in solution will be greatly reduced.

There are one or two points in the detailed directions of the Pharmacopœia which, it seems to us, are open to criticism. The directions are to triturate the opium, lime and water together, and leave the mixture in a mortar for half an hour. The evaporation of moisture from an open mortar, especially if the atmosphere happens to be dry, is not inconsiderable, and it is quite probable that the failure to obtain the desired amount of filtrate can be explained in some cases in this way.

The U. S. P. directs that the filtrate be collected in a wide-mouthed bottle or flask (having a capacity of about 120 C.c. and marked at 50 C.c.). If a flask be used, the 50 C.c. mark will be at the widest part and it would be an easy matter to make an error of 1 to 2 C.c. in graduating or filling to the mark, as we found by repeated trials. In all of our experiments we used a narrow graduated cylinder to measure the filtrate.

Want of time has prevented us from continuing our experiments, but we offer the following conclusions as the result of our experiments.

1. The increase in volume by solution of extractive matter is not sufficient to warrant us in taking 52 C.c. of the filtrate as representing 5 Gm. of opium. The volume directed by the U. S. P. (50 C.c.) seems to be very nearly correct. At least it would require a large number of experiments to warrant us in changing that.

2. About 10 per cent. of the morphine in the opium is retained in the mother liquor after crystallizing the morphine according to the U. S. P.

3. Excess of either ammonium chloride or free ammonia increases the solubility of morphine in the mother liquor, and experiments should be made with a view to reducing the amounts of ammonium chloride and of lime.

4. The mixture of opium, lime, and water should *not* be allowed to stand in an open mortar, but might be made in a mortar, if necessary, and transferred to a stoppered flask or covered vessel of some kind to macerate.

5. The filtrate should *not* be measured in a bottle or flask, as directed by the U. S. P., but in a narrow graduated cylinder.

University of Michigan, September, 1886.

(These conclusions were published in this journal last month; the paper having since been forwarded to take pleasure in publishing in full, owing to the importance of the subject.—Ed. W. D.)

"Alkali," according to an exchange, is a word of Arabic origin. The word *qalay* means "to fry," "to roast in a pan;" *al-qaliy* was applied to the calcined ashes of the plants salsola and salicornia. The word is first met with in English in Chaucer (1386) in the not very musical lines:—

> Salt tartre, alcaly and salt preparat,
> And combust matieres and coagulat.

In early chemistry, says Dr. Murray, alkali was supposed to be a specific substance which existed, fixed (in soda, potash), volatile (in ammonia). Duhamel (1736) showed that there were distinct alkalies, and these were distinguished as mineral alkali (soda), vegetable alkali (potash), and animal alkali (ammonia).

Editorial.

"A Merry Christmas and Happy New Year" to all our readers.

Our esteemed contemporary, the Druggists' Circular, of New York, states in its December issue that its aggregate circulation for the present year was 169,000 copies. Its circulation for its special November issue being, according to its announcement, 30,000 copies, we have 139,000 copies as its regular circulation for eleven months, or 12,636 average regular circulation per month. These are its figures

The WESTERN DRUGGIST issued a total for the current year, with special issues, of 157,100 copies, or an average per month of over 13,000 copies. The average of its *regular* subscription editions was about 9,000 copies. For 1887 the WESTERN DRUGGIST guarantees a regular subscription circulation of *not less* than 10,000 copies per issue. What does the Druggists' Circular guarantee? This is the question with advertisers, and it alone can determine the question of present pre-eminence. We are prepared to submit attested or any other specific evidence to which the Druggists' Circular may on its part agree, as a means of determining the question of larger circulation. It is due our patriarchal friend to state that in challenging it thus directly to a comparison we do so because it alone feels justified in disputing our supremacy. Now let us have the precise facts; no "average," no "extra editions," no glittering "claims," but plain, clear-cut figures, showing the precise number of actual *paying subscribers*.

Nearly all State Associations during the past year appointed a committee to "co-operate with other committees" for the repeal of the $25 U. S. tax on druggists as liquor-dealers. As yet we have heard of no individual or concerted action. It is clear these committees must get to work soon or nothing will be done. The National Wholesale Druggists' Association may be expected to make a vigorous fight for the repeal of the alcohol tax and the personal tax on wholesale and retail druggists, but this platform comprises more than retail druggists feel called upon unanimously to support. Many of the latter are quite indifferent about the alcohol tax, and they recognize, moreover, in the personal tax on wholesale dealers a different principle than that involved in the tax on pharmacists. In the one case it is a tax on men who sell liquors not knowing presumably how they will be used, while in the other sales are presumably made solely for medicinal purposes; in the former instance it is in effect a tax on liquors in general, and in the latter a tax on medicines. It is maintained that Congress should recognize the distinction, and if in its wisdom it should not see fit to repeal the tax on wholesale dealers, it might nevertheless consistently repeal that on retail druggists on the principle that medicine of all things should be most nearly "free."

It is difficult to account for the persistent retention of these special taxes and that on alcohol. Congress is confronted with a grave financial problem arising from the rapid absorption of the currency by the national treasury where millions of dollars are accumulating and lying idle when their active circulation is urgently needed by commerce. The money cannot profitably be used in the purchase of bonds because none are due; to buy them at the current premium rates would be finance run mad, but, unless the customs tariff be materially reduced or the special and internal revenue taxes modified or removed, disaster must ensue.

A proper re-adjustment of the tariff is no doubt impracticable at this time: the season is too short and the hostility too bitter. The proposition with reference to the internal revenue is less complicated chiefly because the mercantile interests concerned, instead of, as in the case of the tariff, fighting for taxation, are on the contrary almost a unit for repeal. The opposition to repeal bases its arguments on the plea that "whisky is a luxury" and, as the chief agent of crime and pauperism, it is a proper subject for heavy taxation.

This argument takes no account of the fact that the greater part of the alcohol production is employed in legitimate industries wholly removed from the "rum traffic," and fails also to note that as the national government is at no expense for penal and pauper institutions, it can offer little excuse for demanding an immense revenue on this account. This burden is borne by the people in their respective States, and if the liquor-traffic is to be held responsible for its evils and be compelled, in some degree at least, to re-imburse society for the pecuniary burdens it imposes, the States should clearly be the beneficiaries and not the Nation. With the alcohol tax removed, the States could readily re-impose the tax by taxation of all dealers in liquors, exempting those selling only for specified non-beverage purposes. By this means, the revenue would inure to its rightful owners, the penalty would be paid by the responsible authors of the universal curse, and not by an article innocent in itself and extensively employed in important industries, and a proper discrimination could most readily be made between the dealers in the beverage and the dispensers of prescriptions.

The question has also an important bearing on our national banking system, for, with the forced extinguishmen of the national debt by treasury accumulations through excessive national taxation, the foundations of the system would disappear.

It is evident that unless the politicians can find creeks, ponds and swamps enough to furnish a pretext for extensive "internal improvements" and colossal expenditures, either the tariff system, the internal revenue system or the national banking system "must go." Druggists are interested in the question not only as citizens, but most directly as business and professional men. It is proper therefore that they speak with special emphasis.

The pharmacists of Italy, as stated by our Munich (Germany) correspondent, have resolved to petition the government for a rank to pharmacists in the army service equal to that enjoyed by physicians. Did not several State associations in this country and the A. P. A. adopt similar resolutions relative to the U. S. army apothecaries, and will the committees make themselves heard by the present Congress? Justice in this respect to the army pharmacists and proper recognition of their profession, has already been too long delayed. They naturally feel keenly their official ostracism and the indignities to which their inferior station subjects them. The duties of the "hospital steward" are much more exacting and re-

quire a degree of intelligence and education at least equal to that of medical officers, but what is an apothecary that he should be rated above the menials and servants? The imputation is a stinging insult, and its continuance should meet with equally sharp protest. Let the matter be presented to Congress without delay.

Pennsylvania and Indiana are now the only States of the larger class in the country without a State pharmacy law. Both will, no doubt, present bills to their next legislatures, that for Pennsylvania being already drafted and approved by the State Pharmaceutical Association, as published elsewhere, and Indiana may be expected soon to take definite action. The Pennsylvania draft is liberal and just. It admits, without registration, not only all druggists doing business in the State when the act shall take effect, but also provides for the registration as assistants of all clerks in the State who shall at such time have had two years' experience or when they shall attain such experience. Our remarks last month to the contrary were based on a copy of the draft not having the final revisions. It is to be hoped that the bill will receive the unanimous and enthusiastic support it deserves. Pennsylvania cannot afford to be last in a movement which its traditions demand it should have led. Chairman Redsecker and his able legislative committee will, we feel assured, have the hearty co-operation of every progressive pharmacist and druggist in the State in the arduous work before them.

It is objected in some quarters that to abolish diploma privileges in pharmacy laws would concentrate all power over registration in the State Boards of Pharmacy, and clothe them with an authority over individual and collective interests more absolute than is possessed by any save the supreme courts. The Boards may at their pleasure admit or reject any applicants; they decree who may and who may not enter the drug business; malice, prejudice or self-interest in an individual member may decide adversely an application involving hundreds or thousands of dollars, but from the decision of the Board there is no appeal Is it wise to endow the Boards with such remarkable powers? Is it in consonance with the dignity and just liberties of the profession? Are not colleges of pharmacy, institutions devised solely to impart the requisite knowledge, quite as competent to pass upon the qualifications of would-be pharmacists, and may they not be trusted to be quite as free from personal bias as members of Boards of Pharmacy? Should not these institutions be fostered by proper State recognition of their diplomas, and a due incentive thereby given collegiate education?

These are pertinent questions; in the early days of pharmacy legislation, they were supreme and invulnerable, and in consequence we find our earlier laws recognizing a college diploma as fully the equal in law of a Board examination. When it became apparent, however, that the interests of pharmacists and the public demanded a fair and liberal policy by the Boards, and when it was seen that the Boards were, as a matter of courtesy as well as of obligation, required to account to the druggists at large through their representative associations, and that these associations, through the quite general power of indirect appointment or through mere resolution, determined almost absolutely the personnel and policy of the Boards, the ghost of "Board despotism" vanished, and these powers stood forth in their true light as the representatives of the druggists and the conservators of their professional interests, and those of the general public.

It was seen that a Board could not afford, even if so disposed, to be despotic, vindictive or unfair. With this revelation the necessity of college jurisdiction over certificates disappeared, and when these institutions rose in rebellion against the threatened "usurpation," they soon discovered that legal recognition of their diplomas practically carried with it also recognition of medical college diplomas of wonderful and fearful variety, with the startling advantage for the latter that the possessors became in law both pharmacist and physician! As time progressed the better colleges observed that there was no legal discrimination between themselves and the poorer schools, and that the tendency was or inevitably would be toward lowering the standard of collegiate education through the multiplication of schools having for their chief aim, not a sound, honest education for their alumni, but simply the coveted ticket of admission to practice. To maintain that their graduates must be admitted without a State examination was naturally accepted as implying that they feared an examination, and hence, while confessing to cowardice or defective instruction, placed themselves in the position of pleading for a premium on collegiate incompetency. It is exceedingly gratifying to note that probably every college of reputation in the country is now a bitter opponent of the "college sovereignty" doctrine, and that the idea lives in the hearts of those only whose mistaken zeal for their alma mater has blinded them to the demonstration of practical experience.

Pennsylvania and Indiana will consider laws and Illinois amendments, this winter, bearing on this subject, and among the most strenuous supporters of the related provisions will doubtless be found the representatives of the colleges.

The Shop Hours Act, championed in the British House of Commons by the celebrated naturalist, Sir John Lubbock, is creating a great stir among the druggists of Great Britain. It provides that all shops, excepting premises in which any intoxicating liquor is sold by retail for consumption on the premises, refreshment houses, tobacconists' shops, and news agencies, shall be closed every day in the week with the exception of Saturday, or the day preceding a bank-holiday, at *eight* P. M. By permission from the central authorities granted upon petition, certain shops other than those exempt in the schedule may be kept open to later hours under certain restrictions. Violations of the act will be punished with a fine not exceeding five pounds.

With reference to drugstores, or "chemists-shops," as they are mostly called in England, the act contains the following clause: "A pharmaceutical chemist or chemist and druggist shall not be liable to any fine under this Act for supplying medicines, drugs, or medical appliances after the hour appointed by this Act, or by any order made thereunder for the closing of shops; but this section shall not be deemed to authorize a pharmaceutical chemist or chemist and druggist to keep open shop after the said hour."

From the Chemist and Druggist we learn that great interest is manifested in the bill by all classes af druggists in England. From a vigorous correspondence in its columns, participated in apparently by the metropolitan as well as the shop-keeper on the island of Skye, the majority by far are heartily in favor of the bill, which will soon come up for passage. It would perhaps promote a spirit of resignation by our British brethren were they acquainted with the number of hours the American pharmacy keeps open—from 7 A. M. to 11 P. M. is a fair average in the larger towns and cities—or 16 hours, and that daily, Sundays only excepted, when one or two extra hours are appro-

priated. In England the complaint is great because the time is from 8 A. M. to 10 P. M.—and in most instances 9 P. M.—with only fractional service on Sundays. Truly, American pharmacists have greater need of a philanthropist for their emancipation than their kindred in other lands.

It will be remembered that on the strength of the recommendations of several pharmacists who had made extensive investigations on nux vomica with a view of devising formulas for its preparation and also a reliable and easy method for determining the alkaloidal percentages to a constant strength, the so-called standardized preparations of nux vomica were introduced in the British Pharmacopœia. We at that time entertained grave doubts as to its expediency, not that the work recorded was not of great value to our knowledge of the pharmacy of nux vomica, but because we shared the views expressed by Mr. Schacht. Aside from the absence of the absolute therapeutic necessity of standardizing preparations of drugs (with the possible exception of opium), the question of practicability must also be taken into consideration.

Mr. Schacht expressed an opinion at that time "that without a great deal more knowledge than is at present possessed by any one, any attempts at standardizing the medical potency of extract of nux vomica must be fallacious." This supposition seems to have been nearly correct judging from the experience reported by Martin to the British Pharmaceutical Conference involving the investigation of the Pharmacopœial preparations of nux vomica.

As was shown by the investigations of Mr. Martin, although the British Pharmacopœia had been in force for nearly one year, specimens of the preparations, extract and tincture of nux vomica, showed nearly as great a variation as before the "standard" was adopted. That this variation was on the side of *excess* of the officinal strength is associated with even more danger than in the case of the former deficiency of the preparations.

The suggestion of Mr. Hollister in our correspondence columns that representatives of the various Boards of Pharmacy convene, during intervals of the sessions of the American Pharmaceutical Association, to discuss and, if practicable, agree upon some plan of inter-State reciprocity of certificates, is entitled to consideration. As stated last month, the reciprocity would necessarily be limited to corresponding classes of certificates in the various acts; within this limit it would seem action might be taken with entire safety to the Board of every State and in full harmony with the law and the interests of pharmacy in every State. No additional legislation appears to be required to sanction such action; in those laws having no specific sanctionary clause, full authority is doubtless given to the Boards under the general provision empowering them to issue certificates to such persons as they may deem competent.

The question of the ownership of prescriptions was recently decided in a suit against a Philadelphia physician. An application was made for an order for the production of the prescription files of a drugstore. The order was refused on the ground that these were of the nature of confidential communications passing between physician and patient, and hence under the Pennsylvania and New York laws not producible as evidence except by consent of the patient. The privilege of waiving the right of such confidential communications is a right of the patient, not of the physician. Such decision vests the ownership of the original prescription and its copies in the patient. It, however, would not affect States without a special statute governing the relation of physician and patient, which is the case with most Western States.

As stated elsewhere, a child was recently poisoned in Chicago by a patent medicine which contained opium but was sold under the misleading title of "Syrup of Tar and Wild Cherry." Had this been a morphine-quinine error the air would have been blue with newspaper denunciations of pharmaceutical carelessness, but not a single newspaper has denounced the patent medicine man. The advertisement confers an immunity on the nostrum shark. A law requiring the printing of the formula of the patent medicine on the label would prevent these murders, but such a law would be denounced by the press as an infringement of the "right of inventors."

Mr. George Buck, of Chicago, who has been the president of the Illinois Board of Pharmacy since its establishment, and whose term expires with the close of the present year, declines to be a candidate for reappointment though renominated for the position by the State Pharmaceutical Association, and urged to permit his name to be presented to Governor Oglesby. The sound judgment, firm convictions and ripe qualifications of Mr. Buck will cause his retirement to be attended with general regret. The Chicago Retail Druggists Association has indorsed Mr. C. H. Grube, of Robinson, a gentleman of high character and good ability, for the position. Mr. C. F. Prickett, of Carbondale, the other nominee of the State Association, is being generously supported by his friends.

Paul Bert, the most distinguished French physiologist since Claude Bernard, has fallen victim to the climate of Tonquin. He was born Oct. 17, 1833, at Auxerre, France, and first studied law. Becoming attracted by the natural sciences he studied medicine, and was graduated in 1863. About the time he pursued his medical studies the cruel manufacture of freaks for begging and museum purposes by the Italian Padrones, attracted his attention and led to the experiments narrated in his thesis, "De la Greffe Animale," which resulted in discoveries of great value in the physiology of nutrition. He demonstrated that animals could be grafted on each other in like manner as vegetables. He grafted a cat on a rat by means of what he called "fleshy buds." When both animals had recovered it was shown that an injection of belladonna into the cat caused pupillary dilation in the rat. His experiments on anæsthetics did much to increase the safety of their administration. He was a man of kind, generous impulses, courteous in manner and thankful for just criticism of any defects in his physiological essays. His ability was early recognized. Claude Bernard made him his assistant, but during the empire he incurred the hostility of the court from his sturdy republicanism. From the foundation of the third Republic he enjoyed high honors and was made Governor of Tonquin. He married twenty-five years ago a Miss Clayton, the daughter of an English pharmacist. She survived and has been liberally pensioned by the French Republic in recognition of her husband's services.

The French Academy of Medicine has accepted a bequest of $5,000 left by the late Dr. Jacquemier, the triennial interest of which is to form a prize named in honor of the donor for his work in connection with the science of obstetrics.

Progress of Pharmacy.

ANTISEPTIC WOOL is prepared by impregnating wool freed from oil, with a solution of mercuric chloride (1 in 2,000). Dr. Marcy (Journ. Am. Med. Assoc.) prefers it to absorbent cotton in many instances on account of its greater elasticity. The last mentioned, as is well known, becomes "matted," and prevents the uniform absorption of the secretion, thus retarding repair, while the wool is more easily permeated by the fluids.

A NEW TEST FOR TANNIC ACID is recommended by J. E. Saul (Pharm. Journ., p. 387) consisting in a color reaction, recently submitted to the Austrian Academy of Science, as a test for sugar. To distinguish tannic from gallic acid, to 1 centigram of the substance agitated with 3 C.c. of water, add 3 drops of a 20 per cent. alcoholic solution thymol, and then 3 C.c. of sulphuric acid. With tannin a turbid rose colored solution result, whilst with gallic acid it remains untinted, or the faintest possible pink coloration is visible, more especially in the sulphuric acid layer at the bottom.

IN THE EMPLOYMENT OF IODOL, Dr. G. Mazzoni (Berl. Klin. Wochenschr, p. 694) reports that the article as now produced by Kalle & Co. is entirely odorless, and therefore less readily decomposed by external influences. The alcoholic solution, at first light yellow, is decomposed by the sunlight, becoming dark-colored (owing to free iodine in solution), an amorphous black powder precipitating. When preserved in dark vials in a cool place the solution keeps clear for a long time.

TO DETECT SPERMACETI IN OIL OF ROSE.—Hoppe recommends the following (D. Am. Apoth. Ztg.): The suspected oil is agitated with from one and one-half to twice its weight of melted glacial acetic acid, the resulting crystalline mass transferred to a filter, and washed with vinegar to remove the oil, then with water until the odor of rose has quite disappeared, and finally washed with solution of soda, and again with water. Should any residue result, its identity with spermaceti is evidenced by the odor produced, similar to burning oil when charred, and may be reproduced after some time by again heating the substance.

SACCHARIN has been found to have decided anti-fermentative properties by Aducco and Mosso (Chem. Zeitung, p. 218), 0.16 per cent. being sufficient to greatly retard the activity of beer yeast. Employed in the same proportion, urine was preserved for seven days, while the same quantity of salicylic acid had proved ineffectual in arresting the ammoniacal fermentation. It was equally effective in preventing lactic fermentation in milk, and in retarding the action of the digestive ferments, which was, however, not interrupted when the quantity of saccharin was reduced to 0.0064 per cent. Further experiments proved that it was equally active in this respect with benzoic and salicylic acids, and even boric acid.

TO DETECT ARTIFICIAL COLORATION IN WINES and fruit jellies, Prof. Curtman (Pharm. Rundschau, page 271) recommends A. W. Hofmann's isonitril reaction for the detection of chloroform, having determined its efficacy in the following manner: 4 C.c. wine, colored a light red with fuchsin, is heated for about one minute with two drops chloroform and 4 C.c. solution caustic soda, and the temperature then increased to the boiling point in order to drive off the chloroform. The production of the penetrating, unmistakable odor of isonitril shows the presence of the slight trace of the aniline derivative. Experiments with artificially colored fruit syrups yielded the same results. With rosaniline the reaction was less pronounced, digestion for some time with sodium hydrate being required. Methyl violet and salts of chrysanilin require treatment with acid before the addition of chloroform. Prof. Curtman is engaged in determining the further application and value of this reaction for the detection of artificial colors in wines and fruit syrups, and hopes to shortly report the results.

THE ARTIFICIAL PRODUCTION OF CONIINE by Ladenburg, of Kiel, is announced by the Pharmaceutical Journal (Oct. 30, page 347). It was obtained synthetically by the reaction of paraldehyde on a-picoline, and is chemically a propylpiperidine, a base identical with the natural alkaloid coniine, and forming salts corresponding to those obtained from the natural alkaloid. The new substance when first produced appeared to be optically inactive, but upon further investigation the base was obtained with the specific rotatory power of the natural base, and its identity with it clearly established.

To show how this result has been accomplished, and the extent of labor in producing this and similar compounds artificially, the Pharmaceutical Journal records the steps by which this synthesis has been gradually effected, as follows: Acetic acid, by Kolbe and Melsens; from acetic acid through acetone and isopropyl alcohol to glycerin, by Friedel and Silva; from glycerin to trimethylene bromide, by Erlenmeyer, Geromont and Raboul; from trimethylene bromide to pyridine, by Königs and Hofmann; from pyridine to a-picoline, by Lange; and from a-picoline to coniine, by Ladenburg. Truly the molecules have been manipulated with patience and care.

SOME INTERESTING OBSERVATIONS ON CAPILLARITY AND SOLUTIONS have been made by Gerstmann (Chem. Zeitung, p. 1220) with reference to the separation of different liquid mixtures or solid constituents in solution. When passing alcohol of 30 per cent. strength through capillary tubes, the first portion of liquid passing over contained a much greater proportion of alcohol, while with alcohol of 70 per cent. the first portions delivered from the tube contained much less alcohol than the original liquid. Solutions of oxalic acid, sodium chloride and hydrate, when percolated through porous earthenware or compressed sand, behaved in the same way.

[This interesting phenomenon was first described by J. U. Lloyd (Proceedings Am. Pharm. Assoc. 1884), who instituted detailed experiments at the time, showing how a solution of salts of iron, lead and copper could be separated by the capillary attraction of a piece of blotting paper. It was suggested at the time that the separation might be governed by the molecular weight of the compound, but we believe that no satisfactory explanation has as yet appeared. Since the phenomenon was observed and taken advantage of in the days of the alchemists for obtaining alcohol by *distillation per descendam* the subject seems well worthy of further investigation.—ED. W. D.]

Queries and Formulæ.

WE cordially invite queries for this department on any subject of pharmaceutical interest. Correspondents will give their name and address, but initials only will be printed when desired. It is especially requested that they furnish such information as they may already possess on the subject embraced in their queries. Queries cannot be answered by letter. Communications for this department should be addressed to Editor of the WESTERN DRUGGIST, 69 Dearborn Street, Chicago.

237. SWEATING WINDOWS.--W. F. Guess & Co. (Sumner, Ill.) inquires how the store windows may be kept bright and free from moisture or frost. Perfect ventilation is probably the most effective means within reach. This is effected by making openings in the sash at the top and bottom so as to cause a current of cold air from the outside to traverse the interior side of the glass. In extremely cold weather, or when the air in the store becomes mixed with watery vapors escaping from the portion of the room where pharmaceutical work is performed, there is no effective remedy, if the cause cannot be removed, except by a double sash. The gaslights in that case should be on the outside of the double panes so that the air in the confined space be not heated but kept at a temperature uniform with the outside atmosphere. The appearance of moisture may, in windows arranged in this manner, be greatly diminished by placing a vessel containing sulphuric acid or calcium chloride within the confined space. Another plan which appears very effective is to have a number of gas-jets along the lower sash furnished with a reflector of tin, which throws the heat up along the glass and thus prevents condensation, to which, of course, the moisture, etc., is chiefly due.

238. W. C. G. (Allegheny, Pa.) desires formulas for the following preparations:

COMP. ELIXIR OF PHOSPHATES AND CALISAYA (Wheeler's).

The following adopted by the Illinois Association (1884) is recommended by the N. F. C. (National Formulary Committee):

Take of

Syrup calcium lactophosphate	fl. oz.	4
Syrup iron lactophosphate	fl. oz.	2
Acid phosphoric dil	fl. oz.	1
Quinine sulphate	grs.	32
Alcohol	fl. oz.	4
Spirit of orange	fl. oz.	¼
Water sufficient to make	fl. oz.	16

Dissolve the quinine sulphate in the acid and the alcohol, previously mixed with the spirit of orange. Pour this mixture into the syrups previously mixed with 4 fluid ounces water, let stand two days and filter, adding sufficient water through the filter to make the product measure 16 fluid ounces.

The original article possesses a nauseating flavor of bitter almonds; it is not, however, as bitter in taste as that produced by the above formula, owing probably to the fact that it contains less quinine than claimed for it.

239. ELIXIR PERUVIAN BARK AND PROTOXIDE OF IRON.—The following is given in Lloyd's Elixirs under the title "Elixir Calisaya, with Citrate of Protoxide of Iron":

Sulphate of iron, cryst	grains 256
Bicarbonate of sodium	grains 200
Citric acid, Distilled water, Elixir Calisaya	Of each sufficient to make 16 fluid ounces.

Dissolve the iron sulphate and sodium bicarbonate separately, each in 16 fluid ounces of cold water, and mix the solutions. Pour the mixture into a bottle, which must be filled to the stopper, using more distilled water if necessary, and permit it to rest for twenty-four hours. Decant the clear liquid and refill the bottle with distilled water; shake well and let stand as before, when the precipitate is freed from the clear liquid by decantation, and finally by expression upon a muslin strainer. To the precipitate contained in a mortar, sufficient citric acid is added to effect its solution, and then sufficient elixir of calisaya added to make the product measure 16 fluid ounces, which, after standing twenty-four hours, is filtered.

The popular name of this preparation is, as will be observed, a misnomer, since the protoxide (ferrous oxide) of iron, being insoluble, is rendered into a soluble salt, namely, ferrous citrate, as mentioned in these columns (page 112, '84), where substantially this process is also given for a syrup of protoxide of iron. Owing to the extensive use of these preparations readers are requested to report upon this and other formulas for its preparation with the view of recommending it for adoption in the National Formulary.

240. EXTRACT HAMAMELIS (Dist.).—We take the following formula from page 62 W. D., '84; it yields as good a product as can be obtained, except when the fresh bark is used:

Hamamelis bark, coarsely ground	pounds	10
Hot water (180° F.)	pounds	40
Alcohol	pints	8

Macerate the bark in the hot water for twelve hours, then add the alcohol and distill until forty pints be obtained, adding more water if necessary. The bark may also be exhausted and pressed, and the liquid extract obtained distilled after the addition of alcohol; the latter is added to preserve it and to prevent it from freezing in cold weather. The fresh bark from the young branches should be alone used—the part of the plant officinal in the U. S. P., namely, the leaves, does not yield a satisfactory preparation.

241. HYPNON.—R. E. R. (Chicago, Ill.) inquires as to the best method of administration of the above. The following is recommended:

℞ Hypnon		ʒss.
Olei amygdalæ		ʒss.
Pulv. acaciæ		ʒi.
Syrup aurantii cort		ʒi.
Aquæ g. s. ft		ʒiv.

Mix the hypnon with the oil, and form an emulsion by the acacia and the addition of three fluid drams of water; then add the syrup, and finally water sufficient to make four fluid ounces.

This mixture is pleasant to the taste and contains the hypnon suspended in the emulsion. In the same way many similar substances insoluble in water may be exhibited. This mixture contains one grain hypnon to the fluid dram—the usual dose.

242. WHAT IS A PINT?—W. H. (Volga City, Iowa) sends a clipping from Webster's Unabridged Dictionary which defines a pint "as half a quart, or four gills; in medicine twelve ounces. It is applied both to liquid and dry measures." If similar errors were not common in the work named the misinformation regarding it might be forgiven.

As it is we can only deplore the dense ignorance of persons who ought to know better concerning all technical subjects relating to pharmacy.

A pint, that is a U. S. pint, as may be found by referring to the Dispensatory, is one-eighth of a U. S. gallon, and is divided into sixteen fluid ounces, etc. The gallon is the standard for liquid measure, and is equal to 231 cubic inches in volume.

243. THE BLODGETTI PRESCRIPTION.—J. B. Ramage (Lake Benton, Minn.) sends a copy of the old and familiar "Blodgetti Prescription," with a request to be informed whether or not his suspicions regarding it as a fraud are correct:

℞	Ext. Blodgetti	ʒiii.
	Hypophosphite of lime	ʒss.
	Alantin pura	ʒi.
	Meconin	ɔiss.
	Ext. chinchona	ʒii.
	Powd.sugar	℔1.
	Water	Oii.

M.

This prescription is a fraud similar to the "Halish Sativa" and "Corassa" species so frequently noted in these columns. Their evident purpose is to defraud. The druggist, unless he be of the "botanic school," finds the prescription undecipherable and so returns it, when the victim is lured by advice from headquarters to forward the inevitable $3.50, and in return usually gets a package of ground gentian, etc.

244. DETANNATED FLUID EXTRACT OF CINCHONA.—H. C. Coffman (South English, Iowa) desires "a simpler process for detannating fluid extract of cinchona than that given in the U. S. Dispensatory." There is no process given in the U. S. or National Dispensatories for the above. The companion to the U. S. P. gives the following: Macerate 1 liter (34 fl. oz.) fluid extract of cinchona with 400 grams (14 oz.) freshly precipitated ferric hydrate, shaking frequently until the liquid, after filtration, no longer forms a precipitate with tincture of chloride of iron.

Another formula contributed to the National Formulary by the Pennsylvania Pharmaceutical Association is an adaptation of this as follows:

TINCTURA CINCHONÆ DETANNATA (Detannated Tincture of Cinchona).

Cinchona bark, sulphate of iron in crystals	Each 6 av. oz.
Glycerin	2½ fl. oz.
Sulphuric acid, nitric acid, solution of ammonia, alcohol, water	Each a sufficient quantity.

Convert the sulphate of iron into ferric hydrate in the usual manner by means of the acids and precipitation with ammonia, wash it, and express it forcibly. Determine the weight of water contained in this residue by drying a small portion to a constant weight; then mix it with as much alcohol and glycerin as will produce the menstruum required by the U. S. P. (the proportions by weight being 10 of glycerin, 65 of alcohol, and 25 of water). To this mixture of ferric hydrate and menstruum add the powdered bark, mixing the whole intimately, and macerate until a small portion of the liquid, filtered off, ceases to give a bluish-black color with tincture of iron. Then transfer the mixture to a percolator and percolate, first with the remainder of the glycerin mixed with its proper proportions of alcohol and water, and afterward with a mixture of 65 parts of alcohol, and 25 parts of water. Collect the first 30 fluid ounces of percolate and set it aside. Continue the percolation with the last-named menstruum until the bark is exhausted, evaporate the weaker percolate to the consistence of an extract, dissolve this in the reserved portion, and add enough of the last-named menstruum to make 32 fluid ounces of tincture.

NOTE.—In place of converting 6 av. oz. of crystallized sulphate of iron into tersulphate, 15 av. oz of the officinal Liq. Ferri Tersulphatis may be employed for the preparation of the ferric hydrate. If the bark is practically exhausted when the first 30 fl. oz. of percolate have been obtained, the percolation may be stopped when 32 fl. oz. altogether have been obtained. (N. F. C.)

We have always entertained serious doubts as to the availability of ferric hydrate for detannating preparations of alkaloidal drugs on account of the loss of alkaloids because of the formation of insoluble compounds with the iron hydrate. The following formula has been used extensively and yields a preparation in every way satisfactory. It was presented by the Illinois committee:

Cinchona in very fine powder	8 av. oz.
Lime, recently burnt	2 av. oz.
Alcohol, water	Each enough to make 16 fl. oz.

Slake the lime with 8 fl. oz. of water into a milk, and with this mix the cinchona. Dry the mixture completely, rub it to a fine powder and exhaust it with hot alcohol, using 8 oz. successively, until 16 fl. oz. have been obtained. The liquid may be rendered just perceptibly acid with diluted sulphuric acid, when any lime which may have entered into solution will be precipitated.

NOTE.—This tincture contains all the alkaloids in solution, crystallizable as well as uncrystallizable, and is 2½ times stronger than the officinal tincture. It is an adaptation of the U. S. P. process for assaying cinchona.

The menstruum for a detannated preparation of cinchona should be such as will exhaust it of the alkaloidal principles. Alcohol alone is, therefore, clearly indicated without admixture of glycerin and water, as in the first formula.

245. RESORCIN.—F. H (Monson, Iowa) desires to be informed of the source and therapeutic properties of resorcin. It is a phenol-derivative, but is also prepared from a number of gum resins, such as assafœtida, galbanum, etc. It is used in 1 per cent. solution as an antiseptic dressing and internally as a substitute for quinine. For further information see this journal, pp. 85 and 290, '84; also the Dispensatories, where a full description is given.

246. QUININE IN COFFEE.—M. Q. Smith (St. Elmo, Ill.) asks if the medicinal properties of quinine sulphate are impaired when administered in coffee? No; if anything they are heightened because coffee has the effect of causing fullness of the bloodvessels similarly to quinine. The caffeo-tannic acid, however, will render the salt more or less insoluble, and its action will be to that extent prolonged, and possibly eventually impaired.

247. SOLUTIO OPII AQUOSA.—The same correspondent asks what should be dispensed for "Sol. Opii Aq." This is a standing query in English pharmaceutical journals. There is no real standard strength given, however, and under the circumstances it would be undesirable, because complicating matters, to give any formula or prescribe the strength, when we already have two aqueous solutions of opium officinal in the U. S. P. Both tinctures of opium of the U. S. P. are really 10 per cent. solutions of opium in water, with sufficient alcohol to preserve them. As they are made by maceration and expression, however (leaving a residue), they are more correctly termed tinctures. The suffix "aq." in opium preparations is entirely unnecessary and confusing, and should be abolished. All preparations of opium are made with water; that is, the opium is extracted by water, and hence there is no necessity for distinction.

248. CORN-HUSKERS' SALVE.—J. C. W. (Scandia, Kan.) inquires if glycerite of starch is the article sold under this name. We do not know, but owing to the peculiar wounds caused by husking corn it is probable that the

above would be a good emollient and healing application. The addition of a little carbolic acid (about 1 per cent) may improve its antiseptic qualities.

249. Corn Salve.—J. H. P. (Chicago, Ill.): Oleate of copper has been recommended (see W. D., page 54); also the following, similar to Hanson's:

Acid salicylic	grs. 30
Petrolatum	ounce 1

Corrosive collodion, a formula for which is given on a following page, might be tried; it is highly recommended for warts.

250. Insect Powder.—W. W. Strickland (Ewing, Neb.): The insect powder known as "Persian," "Dalmatian," or "Circassian," is nothing but the finely-ground flowers of Pyrethrum roseum.

Cuticura Ointment.—W. G. Poole (Adrian, Mich.): The composition of this article is stated to be petrolatum colored green with anilin (or possibly copper), a little carbolic acid, and perfumed with some essential oil.

251. Deodorization of Alcohol.—W. A. B. (Winnemucca, Nev.) desires to be informed of a method by which alcohol may be deodorized without the use of a still. Filtration through freshly burnt animal charcoal will answer. A layer several inches in thickness is placed in a percolator upon a diaphragm of cotton, and the liquid allowed to slowly percolate through it.

252. Syrup of Mullein.—S. & W. (Denison, Iowa): We do not send formulas by mail. While we are glad to receive and answer all queries in our power, our replies are for the benefit of all readers of the W. D. With regard to the formula there is none authoritative. As the principal constituent is a mucilage we give the following:

Mullein leaves and flowers	oz. 2

Digest in about one pint of boiling water for a few hours, then express the liquid. When cold strain and dissolve in it about 12 ounces of granulated sugar. These proportions will make about 16 fluid ounces on account of the water retained by the drug.

253. Tincture Turmeric.—F. G. Walker (Platteville, Wis.) desires a formula for the above, being unable to find it in the Dispensatories or other works of reference. The Companion to the U. S P. gives the following:

"Percolate diluted alcohol through 50 grams (or 8 oz.) ground turmeric, previously moistened and packed firmly in a cylindrical percolator until 500 cubic centimeters (or 16 fl. oz.) tincture has been obtained."

254. Cement for White Letters.—P. W. (St. Louis, Mo.): The best cement for this purpose is dry white lead made into a paste with Dammar varnish. The cement should be put in a uniform layer merely on the edge of the letter, otherwise too much surface will be exposed to the contracting influences of the varying temperature of the atmosphere. According to one of the most successful manufacturers of these letters, if these directions are followed the letters will never drop off.

255. Varnish for Labels.—C. R. D. (Marshalltown, Iowa): Besides the notes on this subject in this department during the last three months a varnish recently recommended may be given a trial, consisting of oleopalmiate of alum and Dammar varnish.

The oleopalmiate of alum is prepared by double decomposition from a 10 per cent. solution of alum (ammonia alum) in water, and a solution of white Castile soap of about the same strength, in the same way as recommended for oleopalmiate of zinc. The oleopalmiate rises to the surface, is then washed with hot water and pressed until free from adhering water. It is of pasty consistency.

Domestic Remedies.—Subscriber, (Renfrew, Pa.,) requests formulas for a number of domestic remedies, refering to "Par. P. P." etc. The work referred to is Parrish's Practical Pharmacy, but mostly from the edition of 1856,—which is not at hand. The formulas have been dropped long ago in the revised editions, and as most of them are thirty years old, they might well be improved upon. We give, however, such as we know have not been materially changed, as follows:

256. *Golden Tincture.*—Originally a substitute for Hoffman's Anodyne, usually made by mixing equal parts of alcohol, water and ether, coloring with caramel or Saunders a golden-red color.

257. *Conc. Extract Jamaica Ginger.*—Use the officinal tincture of ginger, or with an addition of calamus and Canada snakeroot.

258. *Cholera Mixture.*—The especial formula here intended (P. P. P., Ed. 1856, p. 474,) we do not know: we suggest Squibb's or Thielmann's mixture. (See W. D., page 155, '86.)

259. *Composition Powder.*—An old Thompsonian remedy prepared as follows:

Bayberry root, bark	ozs. 12
Ginger	" 6
Capsicum, cloves, of each	" 1

All in very fine powder, mix thoroughly.

260. *Pectoral Syrup.*—This is without a doubt that known as "Jackson's Pectoral Syrup," as the late Prof. Jackson enjoyed a sort of monopoly on the term "pectoral" in Philadelphia where the work is published. The following formula was contributed by Prof. J. U. Lloyd (W. D., p. 127, '84,) and adopted by the Cincinnati College of Pharmacy:

Ext. ipecac fluid	fl. dr. ½
" senega "	" 3
" rhubarb "	" 4
Morphine sulphate	grs. 8
Oil sassafras	drops 32
Syrup sufficient to make	fl. ozs. 32

Mix thoroughly.

COMMENTS ON QUERIES IN OTHER JOURNALS

Yield of Extract of Belladonna.—H. K. S. (Chicago). The yield of extract from fluid extract of belladonna should be the same as that obtained from belladonna root with alcohol (94), since this is the menstruum employed for the preparation of the fluid extract. The yield of extract obtained with this alcohol must be not less than 10 per cent. and should average 20 per cent. If the drug used be of proper quality, namely young, soft roots, and thoroughly extracted, the yield of extract will never fall below 20 per cent. The percentage yield stated in the Druggist's Circular (December, p. 279) namely from 4 to 10 per cent., is entirely too low, and could only be accounted for by the employment of old, tough roots, breaking with a splintery fracture, which, according to the U. S. P., must be rejected in the preparation of extracts. The investigations of Lefort and Buddel (see Nat. Disp.) showed that the young amylaceous and light colored roots of belladonna contain about one-half more of the active principle, than the thick, woody roots of a dark-brown color. The percentage of extract from Belladonna leaves, th

only solid extract of belladonna officinal, varies from 20 to 25 per cent., average 22.5 per cent, correctly stated in the National Dispensatory. With strict attention to the alcoholic strength of the menstruum employed, 32.23 per cent. could not be obtained as stated by F. L. Lammer, Jr., in the Am. Jour. Pharm, Nov., p. 537, '86. (For an authentic list of percentages of extracts obtained from drugs, see W. D., p. 340, '86).

LICENSING STILLS FOR PHARMACEUTICAL USE.—H. H. S.' (Chicago). There is no license or other permit required for the employment of stills for pharmaceutical use, in this district. Stills not exceeding five gallons capacity, and condensers thereto, are exempt. For stills above five gallons capacity and condensers, no matter how large, the sum of twenty dollars for each still and condenser must be paid to the Internal Revenue Department, by the maker of the still, with a description of it, and the name and address of the person for whom it is designed. Makers of stills and condensers must pay an annual license to the Department.

BLUE COLORATION OF GUAIAC MIXTURES.—H. M. W., (Phila.) The coloration which takes place in guaiac mixtures containing gum arabic, was explained in the W. D., (p. 21, '86), to be due to the oxidizing effect of a peculiar gum-ferment. According to J. Wiesner (W. D., pp. 1 and 2, '86), many gums, especially acacia and senegal, possess the property, by virtue of the presence of this ferment, to change the color of gualac mixtures from a light-green to a more or less dark-blue. As the ferment is destroyed by a high temperature, the employment of mucilage, which has been previously boiled, has been recommended by the same author. For a full account of this interesting ferment and its reactions of pharmaceutical importance, see the W. D. for January, 1886.

CHLORODYNE FORMULÆ.—We have received several additional formulæ for this compound. These are now being tabulated for publication in the January issue. In the meantime we should be pleased to receive information concerning the formulæ for this compound employed in towns along the Missouri and Ohio rivers, other localities being fairly well represented.

NOTES TO THE EDITOR.

[Practical notes, etc., for this department are appreciated. Our readers will confer a favor by frequent contributions.]

INDELIBLE ANILINE COLORS.

[To the Editor].—In reply to query No. 233 (G., of Columbus, Ohio) in your last issue, I desire to state that the action of nitric acid on the anilines is to convert the salt into a higher nitrate or oxidize it completely. When the former action takes place the product is soluble in water, and when dissolved out the original color is left; the latter action is characterized by a total destruction of the color, e. g.: violets are turned yellow; blues changed to gray, brownish-black or dark green; greens (iodine and ethylaniline) to yellow, and magenta to orange.

The nearest approach and the easiest practical way to make the anilines indelible would be to proceed by using one of the common mordants, as in dying the anilines; for example, let the aniline (in solution) be mixed with a solution of tannic acid with a few drops of acetic acid, and use as a mordant a solution of any metallic salt that would form an insoluble compound with the tannic acid, such as tartar emetic, oxide tin, oxide or acetate alumina; the most satisfactory is the nitrate of lead. By another process the mordant and aniline can be used in one solution by mixing the solutions of arsenate of soda, acetate of alumina, and the aniline.

J. D. LISLE, M. D.

SPRINGFIELD, OHIO, Dec. 8, 1886.

PRESCRIPTION QUERY.

[To the Editor].—In the W. D. for November I notice an inquiry (221) how to prevent precipitation in the following prescription:

℞ Tinct. Krameriæ ..... ℥ii.
Tinct. opii..... ℥iv.
Aquæ camphoræ..... ℥iss.
Aquæ menthæ piperit.. ..... ℥i.
M.

The answer given, recommending the substitution of a portion of the medicated waters with glycerin, is very satisfactory. I prefer, however, to add a few drops of ammonia to the tincture of Krameria before the other ingredients are added, which effectually prevents precipitation. I have frequently seen the mixture with the addition of ammonia used in bowel complaints without, so far as I am able to judge, impairing its value or efficacy.

H. M. LEE.

PINEVILLE, N. C., Nov. 29, 1886.

[We have adopted as an axiom that dispensing should be confined to manipulation and more or less privileged choice in the solvent, vehicle, or excipient employed; that is, that no chemical agent should be employed without being sanctioned by and with full knowledge of the changes wrought by it. Under these circumstances we would not recommend an alkali, no matter how small the quantity, when the purpose may be accomplished by simply modifying the solvent employed, as in the case under consideration. The delicate organic constituents are so easily broken up and dissociated by reagents that the employment of these has been officially as well as unofficially much too promiscuous. In nearly all formulæ, even in those officially directed, the use of reagents in simple compounds has probably done more harm than good.—[Ed. W. D.

A PHARMACEUTICAL PRIVILEGE.

[To the Editor].—Desiring to exercise my prerogative as a pharmacist and the right granted me as a dispenser, when favored with physicians' prescriptions, I wish to do my own compounding of mixtures and solutions whose formulas are known. For some time I have received prescriptions for an article called "Bromidia" made in St. Louis (I believe), and of course, procured the same, paying a price exorbitant, if not extortionate, when the cost of the ingredients is considered. The prescriber being satisfied with the combination, expressed the desire that he would prefer the compound home-made, as he fancied the strength of the original was not always constant. Acting upon his advice I attempted to make a mixture of the various ingredients without succeeding in producing a preparation as satisfactory in appearance as the original compound. As you are familiar with the formula, no doubt it is not necessary to mention it. The extract of cannabis indica, one of the ingredients, no matter what solvent employed, water, alcohol, or elixir would precipitate, and the preparation be to that extent impaired. Kindly advise me what to do in the matter, as the physician, having as much faith in my integrity as in the manufacturers, who are strangers to him, has become suspicious regarding the correctness of the formula.

G. H.

THOMASTON, ME., Nov. 30, 1886.

[Every pharmacist who has had the experience of our esteemed correspondent can appreciate the position he is

placed in, or rather would be placed in, were the physician to him a stranger. Here is what appears to be upon its face an exceedingly simple compound, and yet its manner of preparation appears to be an enigma. But he is not the only one whom it has puzzled, a fact due chiefly to the repeated publications of formulas for its preparation, which were exceedingly misleading.

Prof. Markoe pointed out some two years ago the incompatibility of alcohol with chloral and potassium bromide in similar mixtures, and in the report of the proceedings of the Illinois Pharmaceutical Association, 1884, a formula was given for a preparation, entitled "Elixir Chloral and Potassium Bromide Compound" (page 91), which has been proved entirely satisfactory. It is as follows:

Chloral, potassium bromide, of each..	ozs. 4
Exts. cannab. ind., hyoscyamus, of each.....	grains 16
Water, hot, sufficient to make	fl. ozs. 16

The chloral and potassium bromide are dissolved in 8 ounces of water (boiling hot), the extracts are added to 4 ounces of hot water, and when dissolved in or disseminated through the liquid, this is added to the solution of the salts; after standing two days filter, adding water if necessary, to make up to 16 fluid ounces. This makes a preparation in strict accord with the original formula. The very concentrated solution of the salts dissolves all the active principles of the cannabis and the resin, which precipitates may well be rejected as inert. From the draft of the National Formulary we learn that this formula has been examined by the committee with the view of adoption. In another formula contributed by the Pennsylvania Committee the vehicle employed is elixir, which, containing both sugar and alcohol, does not make a satisfactory preparation.

ELIXIRS.

[To the Editor].—Much has been written and many formulas recommended for elixirs, and the writer is of the opinion, based upon a large practical experience in the manufacture, that an elixir, representing in quantity the medicinal dose in each teaspoonful, is quite impossible to remain in permanent solution, and were the dose increased in proportion as the strength is diminished, better results would be obtained, and less medicinal value would be retained, on the filter, and thrown out with the refuse.

AN ELIXIR FLAVOR.

For a convenient and reliable flavor I would recommend the following

℞ Oil of orange.....	32 parts
Oil of lemon..	8 parts
Oil of coriander	3 parts
Oil of star anise.....	1 part
Carb. magnesia.....	80 parts

Mix the oil and gradually add the mixture to the powdered magnesium carbonate placed in a mortar of suitable size; triturate until a dry powder results, adding more magnesia if necessary from time to time until all is used, and a perfectly dry powder results; then take 528 parts distilled water and 176 parts alcohol, mix and add the powder to the mixture; let stand (after stirring) for twenty-four hours; then decant clear liquid and filter sediment; the filtrate, when well mixed, is ready for use, which constitutes the elixir flavor.

Simple Elixir.—Take 5 parts of this flavor to 3 parts of simple syrup and well mix.

Elixirs containing iron and quinine salts are liable, on long standing, to become very dark, owing to traces of tannin in the quinine salt. The quinine should be freed from tannin before using.

JOHN L. IRWIN, Ph. C.

CINCINNATI, O.

A CORRECTION.

[To the Editor].—In the formula sent by me, and published in the WESTERN DRUGGIST (p. 342, September), for Compound Bismuth Powder, the last item should read Bismuth "Subnitrate," instead of sublimate.

Very truly, F. H. HAZELTON.

BRIDGETON, ME., Dec. 4, 1886.

FORMULAS WANTED.—Subscribers will confer a favor by forwarding formulas to such of the following articles as they may know in their respective localities. By obliging subscribers they may have the same favor extended to them sometime by making their wants known:

Dr. R A. Armstrong's chill tonic, Evansville, Ind.; essence of pepsin, Fairchild's.

The following English remedies: Gombault's caustic balsam; Kitchell's liniment; Cole's ossidine.

Root beer (dry) similar to Hires'.

LIQUEURS.

(From Dietrich's Manual.)

ANISE LIQUEUR.

Take of oils of

Fennel.....	minims 5.	Spearmint.....	minims 2.
Anise.....	minims 45.	Star anise	minims 25.
Sugar.....	oz. 50	Water...	pts. 4
Alcohol.....	pts. 10		

To the oils dissolved in the alcohol add a hot solution of the sugar in the water; when cool color with the green tincture so as to give a slight green tinge, perceptible only in a large quantity, and filter.

CHOCOLATE LIQUEUR.

Take of

Coca beans powd.....	oz. 8	Tinct. vanilla.....	fl. oz. 2
Cochineal.....	dram 1	Arrac.....	fl. oz. 8
Sugar.....	oz. 80	Water.....	oz. 64
Alcohol.....	pts. 8		

A hot solution of the sugar in the water is added to the other ingredients, previously digested in the alcohol for eight days at a temperature of 30 to 40° C. The mixture is allowed to remain in a cold room for several days; it is then filtered.

CURACAO.

Take of

Curacao orange peel.	oz. 16	Oil lemon.....	m. 2
Arrac.....	oz. 2	Oil almond, bitter....	m 2
Sugar.....	oz. 8	Water.....	gall. 2
Alcohol.....	pts. 12		

The curacao orange peel, cut into small pieces, is digested in the alcohol for eight days; transferred to a still to which the oils arrac and 4,000 grams of water have been added. From this mixture thirteen pints are obtained by distillation, which are mixed with seven pounds of sugar, previously dissolved in six pints of water. When cold it is filtered, and a colorless liquid obtained.

RASPBERRY LIQUEUR.

Raspberry juice	grams	100.
Spirit of nitrous ether....	grams	20.
Raspberry syrup.....	grams	500.
Malva flowers (hollyhock).....	grams	10.
Cochineal.....	grams	7.5
Oils of rose, orange flowers, bitter almonds, each.....	min.	1
Alcohol.....	liters	4
White sugar.....	grams	4500.
Water.....	grams	5000.

Add a hot solution of the sugar in the water to the other ingredients, previously mixed with the alcohol; filter when cold.

COFFEE LIQUEUR.

Alcohol	liters	4.5
Cognac	grams	200.0
Spirit nitrous ether	grams	20.0
Water	grams	8000 0
Coffee, roasted	grams	550.0
White sugar	grams	4500 0
Tincture vanilla	grams	20.0

To the first three ingredients is added 6,000 grams of water and 500 grams of coffee, and allowed to macerate from twelve to twenty-four hours. From this mixture is distilled 6,000 grams, to which is added a hot solution of the sugar in 2,000 grams of water, 50 grams of coffee, and the tincture of vanilla. The mixture, after being allowed to stand twenty-four hours, is filtered.

HYGIENIC LIQUEUR.

Alcohol	liters	4.5
White sugar	grams	3500.
Water	grams	4000.
Salicylic acid	grams	10.
Elecampane root	grams	50
Galanga, comp. spirit of melissa, spirit nitrous ether, each	grams	25.
Comp. tincture of aloes	grams	20.
Tinctures of saffron, ginger, capsicum, each	grams	5.
Oil of angelica	gram	1.
Oil of cinnamon	drops	10.
Oils of calamus, cloves, mace, chamomile, each	drops	5.

A hot solution of the sugar in the water is added to the other ingredients previously mixed; when cold filter.

KUEMMEL LIQUEUR (Caraway).

Tincture of vanilla	grams	2.
Spirit nitrous ether	grams	20.
Sugar	grams	3000.
Water	grams	3500.
Oil of caraway	grams	2.
Oil of anise	min.	2.
Oil of celery	min.	5.
Alcohol	liters	4.5

A hot solution of the sugar in the water is added to the other ingredients previously mixed; then filter.

MUSK LIQUEUR.

Alcohol	liters	4 5
Oil of bitter almonds	min.	1.
Oils of marjoram, cloves, each	min.	3.
Oil of mace	grams	3.
Cochineal	grams	0.5
Spirit of nitrous ether	grams	20.
White sugar	grams	3500.
Water	grams	4000.
Galanga, ginger, each	grams	25.

A hot solution of the sugar in the water is added to the other ingredients previously mixed, with the exception of the galanga and ginger, which are afterward added in coarse powder. The mixture is macerated for twenty-four hours in a covered cask, filtered, and colored Madeira yellow with caramel.

THERAPEUTIC NOTES.

AMYL NITRITE has resuscitated patients from collapse caused by cocaine injections.

TEREBENE GIVEN IN LARGE DOSES too frequently repeated has caused kidney-pain, congestion of the kidneys, and scanty albuminous urine.

CALOMEL IN VOMITING OF CHILDREN.—In vomiting of children Dr. A. A. Smith, of New York, has used one grain of calomel to one ounce of limewater. To this is added one pint of pure water, and a teaspoonful of the mixture given every ten minutes.

Æsclepeadin, a glucoside from the asclepias, has been found by Gram (Deutsche Med. Zeitung) to have properties similar to those of emetin.

PULSATILLA IN INFLAMED TESTICLE.—In this condition Dr. A. Bowie gives (Lancet) two drops fluid extract of pulsatilla every four hours with marked effect.

CAPSICUM AND BLUE OINTMENT IN PILES.—The internal use of Tr. capsicum in ten drop doses thrice daily at meals, and the local application of blue ointment made with wool-fat, has cured piles.

OINTMENT FOR BARBER'S ITCH.—Stelwagon (Med. and Surg. Rep.) recommends the following in barber's itch: Zinc oxide, bismuth oleate, of each, 4 drams; lead oleate, 8 drams; wool-fat, 16 drams. MS.—Apply twice daily, the skin to be well washed with hot water each day.

LARGE DOSES OF LOBELIA IN ASTHMA.—Nunes (Bulletin Générale de Therap. No 6, 1880) is using half-ounce doses of tincture of lobelia in asthma with good results, and charges the failures with the drug to small doses. Thompson used to administer lobelia in still larger doses. Deaths from it are frequent in England.

SULPHUR IN DYSENTERY.—The following (Med. Brief) is said to act well in dysentery:

℞	Sublimed sulphur	1 part
	Powd. fennel seed	1 part
	Powd. sugar	2 parts
	Powd. gum arabic	2 parts

M. Sig.: Teaspoonful every three hours.

OLEATE ERGOT IN FALLING OF THE HAIR.—Shoemaker (Medical Bulletin) recommends:

℞ Mercury oleate.
Ergot oleate,
Wool-fat. Of each half an ounce.

S.—To be rubbed in thrice daily.

GUAIACUM AND EFFERVESCING CITRATES IN QUINSY.—Dr. E. P. Atkinson (Practitioner) states that the effervescing citrates will be found useful in allaying not only this but all other kinds of glandular inflammations, and orders twenty grains of potassium bicarbonate, to be taken with fifteen grains of citric acid every four hours in a state of effervescence. Guaiacum, which has long been known to be beneficial in throat cases, is best given in the form of lozenges made up with black currant jam. One of these lozenges should be sucked frequently. Iodine applied locally in cases of glandular inflammation either reduces the enlargement or hastens suppuration.

USE OF WARBURG'S TINCTURE.—Dr. Ringer (Practitioner) advises the following method of administration: One-half ounce (half of a bottle) is given alone, without dilution, after the bowels have been evacuated by any convenient purgative, all drink being withheld. In three hours the other half of the bottle is administered in the same way. Soon afterward, particularly in hot climates, profuse but seldom exhausting perspiration is produced. This has a strong aromatic odor, which remains about the patient and his room the following day. With this there is a rapid decline of temperature, immediate abatement of frontal headache, in a word, complete defervescence, and it seldom happens that a second bottle is required; if so, the dose must be repeated as above. In very adynamic cases, if the sweating threatens to prove exhausting, nourishment in the shape of beef tea, with the addition of Liebig's extract, and some wine or brandy of good quality, may be required.

MUNICH (GERMANY) LETTER.

(Special Correspondence.)

The German Association for the Advancement of Science ("Naturforscher versammlung") met in Berlin on the 18th of September, and was a great success. Scientists and physicians, young and old professors, analytical and technical chemists, pharmacists, botanists, zoologists, physicists and physiologists, mineralogists and geographers, in short, every branch of science was represented.

Over 5,000 persons—scientists and guests—participated in the meetings. A number of festivities were arranged, also a scientific exhibition. Many guests from America, England, Austria, Russia and Italy came to listen to the papers, and to meet old friends. A series of interesting papers were read in the pharmaceutical section of the Association. Schmieder communicated the results of an analysis of Polyporus officinalis. The ashes were rich in phosphate of potassa, the fatty matter did not contain glycerin, but in its place, cetylic alcohol, certainly a notable fact. Succinic, malic, oxalic acids, a new acid, agaricinic acid and finally cholin were found in that fungus.

Poleck contributed a paper upon the impurities of common ether and on the analysis of "tabashir," a Hindoo medicine. Also a new modification of the test for arsenic was discussed at length. Rudeck read a paper upon ozone, Miller upon analysis of urine and milk, Schacht upon a simple method of determining the iron in medicinal preparations, Beckurts upon the detection of alkaloid in mixtures, Schmidt upon the alkaloids of berberis root. The latter has also made it seem plausible that the innocent cholin, a base occurring frequently in articles of food—especially as a component of ceithine—can be converted easily into the poisonous neurine by the action of bacteria. Many poisonous cases could thus be explained.

The German hygienic congress met in Breslau on the 18th of September. It was resolved that an analytical laboratory, serving at the same time for bacteriological investigations, should be established by the government in every county of the empire, where all sorts of food and commercial articles could be analyzed. The directors of such laboratories should have passed a State examination, thus proving their qualification for such an important office. This resolution will be brought before the Reichstag in Berlin next session. It was also resolved that the public schools should be provided with bathing facilities for the children.

The Italian Pharmaceutical Congress met on the 4th of October in Turin. It was resolved to send a petition to the minister of war to place the military pharmacist upon an equal footing with the military physician. The Congress also recognized the necessity of improving the "moral and material position" of the pharmacists, and to request the government to make use of the knowledge of the pharmacists in relation to hygienic questions, analysis of food articles, etc. The superior board of health in Rome should be composed of a professor of chemistry, three pharmacists and a number of physicians.

The Congress also adopted a resolution that "full liberty be granted in relation to the establishment of drugstores." Much may be said pro and con with reference to the latter resolution; the position of the apothecary in England, who is almost suppressed by ordinary merchants selling all sorts of drugs, does not speak in favor of unlimited liberty in regard to opening drugstores.

As a general thing the German apothecaries as well as physicians have a great dislike for homœopathy. None of them believe in the action of the extremely diluted medicines the homœopaths prescribe. The homœopaths, on the other hand, are very active in spreading their doctrines and a manufacturer of homœopathic articles and medicines, Mr. Schwabe of Leipzig, publishes from time to time imposing volumes upon homœopathy. An international homœopathic congress met in August in Basel.

IN BRIEF.

An international congress for hygiene will meet next year in Vienna.

The investigations of slaughtered hogs for trichinæ have shown that an average of one in eighteen hundred hogs is infested with trichina spiralis in Prussia. In Bavaria the trichinæ are much scarcer.

Erlenmeyer, the well-known director of the lunatic asylum in Berndorf, has sent a petition to the Prussian government to prohibit the sale of cocaine to the public without medical prescription. Thus far it has not complied with the request.

In the city of Dessau colic was remarkably prevalent for several weeks among the inhabitants. After prolonged investigations by the physicians the mystery found its solution in the circumstance that the water of the aqueduct contained *lead*, dissolved from the lead pipes.

The experiment has been tried, in the way of aerial cures for consumptives, to introduce the system of sleeping in the open forests. The result has been thus far a marked success; the condition of the patients undoubtedly improved under the continual influence of the open, pure and aromatic air of the pine forests.

A manufacturer of cheese in Prussia was endeavoring to improve his product and to this end mixed the fresh cheese with about 8 per cent. of mashed potatoes. The ripe cheese, however, looked suspicious; upon analysis the admixture was discovered and the author of the new idea fined $12.

The Berlin police have again published in the daily papers a series of analyses of quack and secret medicines, as for example: "Bauer's Consumption Cure" consists of a decoction of malt and apples; "Vollmann's Drunkards' Cure" consists of a mixture of gentian and lycopodium; "Barettas Stomach Powder" is a mixture of bicarbonate of soda, with cream of tartar, milk sugar, sal ammoniac, chalk and a trace of pepsin; "Harz' Mountain Tea" consists of a mixture of peppermint, lactuca, licorice, sassafras, lavender and milfoil.

Some time ago sulphate of sparteine was recommended in affections of the heart muscles. New investigations in the Vienna hospitals have indeed confirmed a certain influence of the alkaloid named (contained in Spartium scoparium); however, it will never be able to replace the action of digitalis.

Coze has discovered that urethane—recently recommended as a hypnotic in certain cases—is an antidote against strychnine. If a deadly dose of the latter be mixed with urethane, and given to an animal, no spasms will result, and the animal will be saved. Another substance, recommended last year as a sleep-producing agent, the acetophenone or hypnone, did not confirm expectations and was found unfit for the purpose. Much is expected of the alkaloid hyoscine $C_{17}H_{23}NO_3$, contained with hyosciamine in hyoscyamus, a strong poison, but in very small doses of a very satisfactory action in different cases of insomnia.

The poisonous substance in certain kinds of mussels (mytilus edulis) has recently been isolated and analyzed. It acts like curare and possesses the composition expressed by the formula $C_6H_{16}NO_2$. The seat of the poison is the liver. It was proven that these animals are only poisonous in stagnating waters of the ports. When living in changing, moving waters, they lose their poisonous character. Star-fish (asterias rubens) behave likewise.

Wegl discovered that the human urine contains about 0.4—0.6 parts of nitrates in 10,000 parts.

The minister of commerce in France has sent a circular to all prefects summoning them to have the commercial wines analyzed. A liter of wine should not contain more than two grams of gypsum. The importation of Italian and Spanish wines, containing more gypsum, has been forbidden. Also tests for salicylic acid have to be made, and wherever found, a suit must follow against the evil-doers.

Husemann proposes to prepare the kefir artificially by taking ordinary sour milk, adding a little alcohol and impregnating it with carbonic acid. This seems very acceptable.

Ladenburg succeeded recently in preparing the genuine coniine artificially by heating paraldehyde with a-picoline and treating the allylp yridine thus obtained with sodium. This is the first synthesis of a natural alkaloid. Several weeks ago an Englishman claimed to have found how to prepare quinine artificially, but the rumor wants thus far confirmation. He keeps his method secret. Ladenburg has shown the identity of cadaverine (an alkaloid formed in decaying matter) with pentamethylen-diamine, $C_5H_{14}N_2$.

A fact of great physiological interest was recently discovered by Prof. Seegen in Vienna. He found that the liver is capable of transforming fat into sugar and glycocine. This is the reverse process of producing fat from sugar, and yields a fine example of the great chemical abilities of the living cells. Thus far no chemist succeeded in the transformation just named. The same author has shown last year that the liver is also capable of forming sugar from albumen or pepton.

Mya has discovered that that the human urine contains, besides small quantities of pepsin and trypsin, traces of diastase. Landwehr found small quantities of a gum similar to dextrin in the human urine.

Apropos of Chinese edible birds' nests, these birds build their nests from a secretion of their salivary glands, and the nests form a matter of great delicacy. Green has found upon analysis that they consist of a substance related to mucin, behaving like this substance in almost every respect. Green names it neossine.

Minkowsky cut the liver out of geese and studied the changes in the process of nutrition. He found that the blood did not contain any sugar, but lactic acid, leucin and tyrosin. The animals did not produce less heat, but death resulted from the production of a poisonous substance in their intestines. The urine of these geese contained much less uric acid and more ammonia than that of normal geese, what seems to corroborate the theory that uric acid is produced in the liver.

The fact that Chevreul lately celebrated his hundredth birthday and that he is now the oldest chemist of the world, calls our attention to other aged chemists. The oldest chemist in Germany is Henry Bauer, ninety-three years of age, in Berlin. He was formerly pharmacist and later manufacturer of mineral waters. He published a series of new chemical facts and articles upon systematic botany.

The Imperial Office of Health (Reichs gesundheits amt), established ten years ago, in Berlin, published recently a report of its labors, relating to epidemic diseases, disinfection, bacteriology, investigation of food articles, analyses of water and medicinal statistics. One cannot deny that much good has resulted from the labors of that office.

Hellriegel claims to have discovered that certain bacteria are capable of converting the free nitrogen of the atmosphere into ammonia! An adventurous hypothesis.

Nickel plated vessels for cooking purposes or for keeping preserved food were forbidden recently in Austria upon the ground, that this metal does not offer as much resistance to acids and to oxidation as does tin, for example. It was shown how easily small quantities of nickel are dissolved by some food preparations and that 0.2 gram of nickelsalts can produce energetic vomiting.

OSCAR LOEW, PH. D.

Botanical Gardens, Munich, Nov. 13.

PULVERIZED GLASS "SAND-PAPER" has been found to be of great value. Glass is readily pulverized by heating it red hot, throwing it into water and powdering in an iron mortar. By sieves of different mesh the powder can be separated into various grades, from the finest dust to very coarse. A strong paper is tacked down and covered with a strong size of glue, the surface covered with powdered glass of the desired fineness, and when dry the surplus glass is brushed off. Muslin is better than paper, and lasts much longer.

"BANK NOTE CEMENT" is made in the following way: Boil one pound of the best glue, strain it very clear; boil also four ounces of isinglass, put the two together in a double glue-pot with half a pound of brown sugar, and boil the mixture until it is quite thick; then pour into plates or moulds. When cold cut and allow to dry, when they are ready for use. They can be carried in the vest pocket. The cement is very useful for joining pieces of paper containing drawings, etc., as it immediately softens in warm water and joins the pieces without dampening; it may be softened with the tongue and applied to paper.

PREVENTING FROST ON SHOW WINDOWS.—To prevent frost on show windows a storekeeper caused a ¾-inch gas-pipe to be extended across the lower part of his windows. The pipe was perforated at close intervals with small holes and the gas burning dimly at each of them, created the desired current of hot air, which effected the purpose indicated.

FIRE-PROOF SHINGLES.—Shingles can be made fire-proof by setting the butts in a trough of water in a which half bushel each of lime and salt and six pounds of potash have been dissolved.

TO STAIN BRICKS RED, melt one ounce of glue in one gallon of water; add a piece of alum the size of an egg, then one-half pound of Venetian red and one pound of Spanish brown. Try the color on the bricks before using, and change to light or dark with red or brown, using a yellow mineral for buff. For coloring black, heat asphaltum to a fluid state, and moderately heat the surface of the bricks and dip them.

MORTAR and paint may be removed from window glass with hot, sharp vinegar.

POWDERED camphor, added to oil or turpentine varnish, will allow it to spread more easily.

Correspondence.

We invite brief letters for this department upon any subject of interest to the pharmacist or druggist.

The publication of communications implies no indorsement by us of their contents.

Names of correspondents will not be printed if so requested.

Address matter for this department to "Editor of the WESTERN DRUGGIST, 69 Dearborn street." To be in season for the next issue letters should reach us not later than the 8th of the month.

TEST FOR REGISTRATION IN NEW YORK UNIFORM.

(Editor of the Western Druggist.)

SIR:—In your issue for November in an editorial regarding the recognition of graduates in pharmacy by boards of pharmacy, you state substantially that graduates of State colleges of pharmacy are recognized by the New York State Board of Pharmacy. This is an error. Graduates of State colleges of pharmacy were, upon the first application of the law, granted a license, under the same terms as the proprietor of a pharmacy or a clerk of five years' experience, provided they applied for the same within ninety days after the organization of the board. An extension of time for application to those originally entitled to register under the law was granted by the Legislature in 1885. Now, however, all who desire a license must pass an examination, even graduates of colleges in the State.

Yours respectfully,

A. B. HUESTED,

Pres. State Board of Pharmacy.

ALBANY, N. Y., Nov. 22, 1886.

[We are pleased to note that the New York law is now unequivocal and absolute in its declaration of Board supremacy over registrations.—ED. W. D]

CERTIFICATE RECIPROCITY.

(Editor of the Western Druggist.)

Please allow me to congratulate you upon the able and interesting manner in which you commence, in your widely-read, influential and progressive journal, the agitation of this question of "Inter-State Recognition of Certificates" which is pressing for solution in the near future. I think it is a recognized fact among the alert and advanced workers in our profession, who have had an experience as members of State Boards of Pharmacy or who have observed carefully their workings, that this question has come to stay and the sooner it is taken hold of, met and solved, the sooner will the best interests of pharmacy be subserved. I am led to the above remark after witnessing the interest manifested, and listening to the remarks made at the second informal meeting of Boards of Pharmacy wedged in between the numerous sessions of the A. P. A. and its committees at Providence, where sixteen Boards are represented by twenty three persons who almost to a man came with the query, "How shall we meet this problem which confronts us at every meeting of our Board."

In view of the existing facts I would suggest, for the adjustment of this question, the following as looking toward its final solution:

Let every Board of Pharmacy be represented at a meeting called to meet during the session of the A. P. A. at Cincinnati in 1887, with instructions to take up, discuss and formulate a standard and present the same to their different Boards for adoption, which, when adopted and made operative by amendments to those laws already existing which do not give Boards specific power (as, for instance, our Wisconsin law says, Chap. 167, Sec. 4, Line 4, "The State Board may grant certificates of registration to licentiates of such other State Boards as it may deem proper, without further examination"), such standard of qualification when so adopted shall be the basis upon which each State Board shall grant "inter-State recognition of certificates."

I trust you will continue the agitation of this matter until the question is settled in the best interests of the 30,000 retail druggists of the country.

Working with you, for their betterment and the advancement of pharmacy, I am most respectfully,

Your friend, A. H. HOLLISTER,

Pres. N. R. D. A. and Member of Wisconsin Board of Pharmacy.

MADISON, WIS., Nov. 26.

A CONSPIRACY IN IOWA FOILED.

(Editor of the Western Druggist.)

The readers of the WESTERN DRUGGIST will be glad to learn that on the 3d of November Judge Utt rendered a decision in the case against the druggists of Black Hawk county brought by a law firm of Le Mars ruling the case out of court on the ground that such charges must be brought by the District Attorney.

These attorneys thought that because druggists had not kept a record of liquor sales as required by a strained construction of law, and as fines inured in part to parties prosecuting, they had discovered an opportunity with "millions in it." They sought to extort $18,000 from the druggists of Black Hawk county, and if the law were construed to suit them and their schemes, they could well afford to hire men with $1,000 promises, and secure the help of mal-odorous judges and lawyers. The opinion of our druggists was that it was was an extensive blackmailing scheme, and that it was altogether too transparently corrupt to succeed.

We hope we have seen the end. This attack both here and at Le Mars has had no support of a public which has been always quick to condemn wrong-doing. The people allow that if druggists could clearly understand the complex liquor legislation of the past fifteen years in Iowa, they could do more than anybody else, and willingly condone an offence against a law that was never understood and at no time critically complied with. B.

CEDAR FALLS, IOWA, Dec. 1, 1886.

THE VEXED PRESCRIPTION QUESTION.

(Editor of the Western Druggist.)

One would suppose from the frequent discussions of this matter for years it ought to have been definitely settled and disposed of long ere this. As it still remains open and undetermined I propose, with your permission, to give my views and practice, suggested by many years' experience.

I take the ground that a prescription once placed on the druggist's file should under no circumstances be removed. It is the druggist's authority for his action, and should

anything go wrong it stands between him and the physician to determine the responsibility. To avoid errors by misma rks on prescriptions, as in the hurry and interruptions when being written will sometimes occur, the druggist should exercise a supervision before filling it, and if erroneous quietly notify the physician as soon as practicable that he may correct it. To secure strict privacy to each physician I have a separate file and location for each one, and if he wishes to refer to his own he can do so without the objectionable necessity of handling others. I have also a general file for outside prescriptions. To regulate the numbers, I keep at the prescription desk a slip of card-board two inches wide, on which is entered the number of each prescription when filled, corresponding with the prescription afterward placed on its proper file.

Such has been my practice for many years, originated from the necessity of the case for convenience and accuracy. I have never yet found a physician who was not pleased with the arrangement; and it is a great relief to the druggist, that no advantage can possibly be taken of others whenever a physician may desire to refer to his prescriptions. Respectfully yours,

S. J. GREENWOOD.

PECATONICA, ILL., Dec. 11, 1886.

THE PENNSYLVANIA PHARMACY BILL.

(Editor of the Western Druggist.)

In your issue for November, page 415, you make reference to the proposed pharmacy law for Pennsylvania, and state that the law fails to "provide for a permanent minor grade of certificate to be issued to persons whose qualifications may be inadequate for the manager of a pharmacy, but are ample for a subordinate position." You also refer to the fact that such laws tend to a scarcity of assistants, and deprecate the fact that there is not a more liberal provision made in the laws of the various States in this matter.

It is very evident that you have not seen a copy of the proposed pharmacy law, as last revised, for the State of Pennsylvania, and with a view of correcting the misstatement in your article above referred to, I take pleasure in herewith inclosing you a copy of our proposed law, and calling your attention to section 5, which expressly states that "those applying for examination for certificates as qualified assistants must produce evidence of having had not less than two years' experience in said business."

Section 7 further provides, as follows: "A qualified assistant engaged in the business at the passage of this act is one who has had not less than two years' practical experience in the retail drug and apothecary business. All other assistants actually engaged in the business at the passage of this act shall, upon the completion of a like term of two years' experience, be entitled to registration as qualified assistants without examination."

The bill as now drawn received a careful revision by the Pennsylvania Pharmaceutical Association at its meeting held in our city in June last, and we think there can be no serious objections urged against the bill as now drawn except by those who are opposed to all pharmacy legislation.

May I ask that you will correct the misstatement made in your last issue, as it was evidently made without your having a copy of the revised law in your possession.

Very truly yours, J. H. REDSECKER,
Chairman Committee on Legislation.

LEBANON, PA., Nov. 25, 1886.

[Our remarks last month to which Chairman Redsecker takes exception in the above were based on a copy of the draft of the bill received several months since from Secretary Miller, of the Pennsylvania Pharmaceutical Association, and which we had every reason to assume had not been subsequently revised. We cheerfully make the correction, especially in view of the exceptional liberality of the provisions covering our former criticism. As a matter of general interest we present the full text of the draft as finally revised for presentation to the next legislature.—ED W. D.]

A PROPOSED PHARMACY LAW, ADOPTED BY THE PENNSYLVANIA PHARMACEUTICAL ASSOCIATION AT ITS ANNUAL MEETING, LEBANON, JUNE 8, 1886.

AN ACT to regulate the practice of pharmacy and sale of poisons, and to prevent adulterations in drugs and medicinal preparations in the State of Pennsylvania.

WHEREAS, The safety of the public is endangered by want of care in the sale of poisons, whether to be used as such for legitimate purposes or employed as medicines, and dispensed on the prescriptions of physicians:

And whereas, The ability of physicians to overcome disease depends greatly on their obtaining good and unadulterated drugs and properly prepared medicines:

And wher as, The persons to whom the preparation and sale of drugs, medicines and poisons properly belong, known as apothecaries, chemists and druggists or pharmacists, should possess a practical knowledge of the business and science of pharmacy in all its relations; therefore,

SECTION 1. *Be it enacted by the Senate and House of Representatives of the Commonwealth of Pennsylvania in General Assembly met, and it is hereby enacted by the authority of the same*, That hereafter no person whatsoever shall open or carry on, in the State of Pennsylvania, any retail drug or chemical store as the proprietor and manager thereof, nor engage in the business of compounding or dispensing medicines or prescriptions of physicians, or of selling at retail any drugs, chemicals, poisons or medicines without having obtained a certificate of competency and qualification so to do from the State Pharmaceutical Examining Board, and having been duly registered as herein provided.

SECTION 2. That there shall be established in the State of Pennsylvania a board, to be styled the State Pharmaceutical Examining Board, to consist of five (5) persons, three of whom shall constitute a quorum, who shall be appointed as follows: The Pennsylvania Pharmaceutical Association shall submit to the Governor the names of twenty persons from among the most skillful retail apothecaries actually engaged in said business in the State of Pennsylvania, from which number the Governor shall appoint five persons, one to serve five years, one four years, one three years, one two years, and one one year, in the first instance; and thereafter, annually, the Governor shall appoint from five persons whose names shall be so submitted annually by the Pennsylvania Pharmaceutical Association, one person to serve as a member of said board for the term of five years. The said persons so appointed shall be and constitute the said the State Pharmaceutical Examining Board and shall hold the office for the term for which they were appointed, or until their successors are duly appointed and qualified; and shall receive as a compensation for their services five dollars ($5 00) for each day actually engaged in this service, and all egitimate and necessary expenses incurred in attending the meetings of said board under the provisions of this act; and no part of the salary of said board, or expenses thereof, shall be paid out of the State treasury.

The said board shall organize by electing one of its members Secretary, who in addition to his compensation as a member of said board shall receive a further sum, not to exceed one hundred dollars annually, for his services as Secretary.

They, the said board, and each of them, shall within ten days after their appointment or being apprised of the same, take and subscribe an oath, or affirmation, before a properly qualified officer of the county in which they reside, that they will faithfully and impartially perform the duties of their office.

Any vacancies occurring in said board shall be filled by the Governor of the State of Pennsylvania for the unexpired term, from among such only as are eligible for original appointment.

SECTION 3. The said the Pharmaceutical Examining Board shall keep a book of registration open at some convenient place, of which due notice shall be given by advertisement in at least four newspapers in the State, and so divided as to reach as nearly as practicable all parts thereof; in which book shall be registered the name and address of each and every person duly qualified under this act to conduct and carry on the retail drug and apothecary business, or to hold the position of qualified assistant therein. And it shall be the duty of all persons now conducting or who shall hereafter conduct, the business of retail apothecaries, or those acting in the capacity of qualified assistants therein in said State, to apply to said board and be registered as such, within sixty days after such notice, and thereafter annually at such time and place as said board may designate.

The form of application shall be subject to such regulations as the board may see proper to adopt; but in no case shall the applicant be put to any unnecessary expense in order to secure registration.

SECTION 4. The said board shall be entitled to demand and receive from each applicant for examination and registration, and the certificate hereinafter provided for, a fee not to exceed two dollars ($2.00), and for registration only, a fee not to exceed one dollar ($1 00) in the first instance, and for annually renewing the same, a fee not to exceed one dollar ($1.00), and the amount derived from this source, together with all fines and penalties for violations of this act, shall be held by said board, and be applied to the expenses and salaries herein provided, and such as may arise under the provisions of this act, and they, the said board, shall report annually to the Governor of the State of Pennsylvania all moneys received and disbursed under the provisions of this act.

SECTION 5. That it shall be the duty of said board to meet once every three months in the city of Harrisburg, or at such other place as they may deem expedient, and examine all persons who shall desire to carry on the business of a retail apothecary, or that of retail-

ing drugs, chemicals or poisons, or of compounding physicians' prescriptions, touching their competency and qualification; and they, the said board, or a majority of them, shall grant to such persons as may be qualified, certificates of competency or qualification, which shall entitle the holders thereof either to conduct and carry on the business, or to act as a qualified assistant therein, as may be expressed upon the said certificate, and such certificate, together with its annual renewal, shall be good and sufficient evidence of registration under this act.

All persons applying for examination for certificates to entitle them to conduct and carry on the retail drug or apothecary business as proprietors or managers thereof, must produce satisfactory evidence of having had not less than four years' practical experience in the business. And those applying for examination for certificates as qualified assistants therein, must produce evidence of having had not less than two years' experience in said business.

SECTION 6. That if any person should hereafter engage in the business of an apothecary or pharmacist, or of retailing drugs, chemicals and poisons, or of compounding and dispensing the prescriptions of physicians, either directly or indirectly, without having obtained such certificate as aforesaid, such person shall be liable to a penalty of one hundred dollars for each and every week during which they shall continue to carry on the business without such certificate, to be recovered by a suit to be brought before any alderman, or in any competent court in said State, by the said board, or by any other person.

SECTION 7. That the foregoing provisions of this act shall not apply to or affect any person who shall be engaged in the retail drug and apothecary business as proprietor of the same, or as qualified assistant therein, at the passage of this act, except only in so far as relates to registration and fees provided in sections three, four and six of this act.

A qualified assistant engaged in the business at the passage of this act is one who has had not less than two years' practical experience in the retail drug and apothecary business. All other assistants actually engaged in the business at the passage of this act shall, upon the completion of a like term of two years' experience, be entitled to registration as qualified assistants without examination.

SECTION 8. That no person shall be allowed by the proprietor or manager of any store or place where prescriptions are compounded to compound or dispense the prescriptions of physicians, except as an aid and under the immediate supervision of said proprietor or his qualified assistant, unless holding a properly certified certificate of registration or competency from the State Pharmaceutical Examining Board, as herein provided; and any person violating the provisions of this section shall be deemed guilty of a misdemeanor, and, on conviction thereof, be liable to a penalty not exceeding one hundred dollars.

SECTION 9. That any person who shall knowingly, willfully or fraudulently falsify or adulterate, or cause to be falsified or adulterated, any drug or medicinal substance, or any preparation authorized or recognized by the Pharmacopœia of the United States, or used or intended to be used in medicinal practice; or shall mix, or cause to be mixed, with any such drug or medicinal substance, any foreign or inert substance whatsoever for the purpose of destroying or weakening its medicinal power and effect, and shall willfully, knowingly or fraudulently sell, or cause the same to be sold for medicinal purposes, shall be deemed guilty of a misdemeanor, and, upon conviction thereof, shall pay a penalty not exceeding five hundred dollars, and shall forfeit to the commonwealth all articles so adulterated.

SECTION 10. No person duly qualified and registered under this act, who supplies medicine or advice to such persons as apply to him at his place of business, but who does not go out to visit the sick, shall be required to register as a practitioner of medicine or surgery, under any law of the State of Pennsylvania: *Provided*, He does not represent himself to be a physician, nor claim a professional fee or reward as such.

SECTION 11. POISONS.—A poison in the meaning of this act shall be any drug, chemical or preparation which, according to standard works on medicine, or materia medica, is liable to be destructive to adult human life in quantities of sixty (60) grains or less.

No person shall sell at retail any poisons, except as herein provided, without affixing to the bottle, box, vessel or package containing the same, a label, printed or plainly written, containing the name of the article, the word "poison," and the name and place of business of the seller, nor shall he deliver poison to any person without satisfying himself that such poison is to be used for legitimate purposes.

It shall be the further duty of any one selling or dispensing poisons, which are known to be destructive to adult human life, in quantities of five (5) grains or less, before delivering them, to enter in a book, kept for this purpose, the name of the seller, the name and residence of the buyer, the name of the article, quantity sold or disposed of, and the purpose for which it is said to be intended; which book of registry shall be preserved for at least two years, and shall at all times be open to the inspection of the coroner or courts of the county in which the same may be kept.

The provisions of this section shall not apply to the dispensing of physicians' prescriptions specifying poisonous articles, nor to the sale to agriculturists of such articles as are commonly used by them as insecticides.

Any person failing to comply with the provisions of this section shall be deemed guilty of a misdemeanor, and liable to a fine of not less than five nor more than fifty dollars for each and every offense.

SECTION 12. That no charge shall be made for registering any pharmacist or apothecary registered at the passage of this act under any pharmacy law previously existing in the State of Pennsylvania, except in so far as relates to the annual fee herein provided for its renewal, and nothing contained in this act shall in any manner whatever interfere with the business of any practitioner of medicine who does not keep open shop for the retailing, dispensing or compounding of medicines and poisons, nor prevent him from administering or supplying to his patients such articles as to him may seem fit and proper; nor shall it interfere with the making and dealing in proprietary remedies, popularly called patent medicines; nor prevent shopkeepers from dealing in and selling the commonly used medicines and poisons, if such medicines and poisons are put up by a registered pharmacist or wholesale druggist, and conform in all respects to the requirements of section nine, provided the provisions of section eleven of this act shall be fully complied with.

SECTION 13. It shall be the duty of the State Pharmaceutical Examining Board to investigate all complaints and charges of noncompliance or violation of the provisions of this act, and prosecute all persons so offending, whenever there shall appear to the board reasonable ground for such action.

SECTION 14. Registered pharmacists under the provisions of this act are hereby relieved from serving on juries.

SECTION 15. That all acts, and parts of acts, so far as they may be in conflict with this, are hereby declared void and of no effect.

IOWA FORFEITED CERTIFICATES.

(Editor of the Western Druggist.)

It would appear from the letter of "Subscriber," of Washington, Iowa (WESTERN DRUGGIST, November, 1886) that he is not particularly pleased with the action of the Commissioners of Pharmacy, in canceling the green seal certificates of parties who leave the drug business for two years. I regret that the time is not shorter, and I feel confident that every pharmacist, registered by examination, will agree with me.

There is a large number of green-seal pharmacists who are perfectly competent to discharge a pharmacist's duties as required by law. But there is a large number whose caliber will just about correspond with "O. B's," the gentleman of Ohio, whose communication appears in the November WESTERN DRUGGIST. The pharmacist who has studied long and hard in order to pass the examination of the State Board of Pharmacy, necessarily claims superiority over the green-seal pharmacists. As the gold seal certificates are really deserving of greater recognition. I, for one, heartily indorse the action of the Commissioners.

EQUITY.

STRATFORD, IA., Nov. 23.

PHARMACISTS AND PATENT MEDICINES.

(Editor of the Western Druggist.)

To the average customer of a drugstore needing medicine to cure some ailment, a patent medicine is usually recommended by the pharmacist. The patient is fitted to the remedy, and not vice versa. Such a practice lowers the standing of pharmacists in popular estimation and greatly diminishes profits, since the customer will buy the recommended patent medicine thereafter at a notion store. Such procedures deprive the drug business of its scientific element, and reduce it to a purely commercial basis. If ten thousand druggists would refuse to recommend patent medicines unless directly called for, there would be fewer bankrupt pharmacists, and patent medicine monopolists would cease to reap fortunes. Recommendation by druggists of medicines of their own make would result in increased popular esteem and financial returns.

C. A. DACHSEL.

MEMPHIS, TENN., Nov. 22.

EARLY CLOSING.

(Editor of the Western Druggist.)

Allow me one word in favor of "early closing." I am a druggist in a thriving Iowa town, and desire to close my store early, but am compelled by unreasonable competitors to keep open till a late hour. I am of opinion that it lies within the power of the drug clerks to bring about the long needed reform. Public feeling would certainly be with them. A few vigorous articles in the press by some pharmacist who can handle the pen, showing the true condition of the drug trade of to-day, its long hours, its great responsibilities and the small pittance received for his untiring labor, would aid greatly in bringing about a system of early closing.

Some may ask, when could the laborer do his trading? An hour after the returning from work is sufficient for such trading. How much can the public respect a man who washes out its dirty castor oil bottle, puts the desired fluid therein, labels and wraps it up and says "Thank you"

with a chromo thrown in, all for five cents, and incites it to drag out his hours of labor in such work.

St. Clair, Ia., Nov. 16, 1886.

A CARD FROM DR. HAAS.

[To the Editor.]—In your last number Mr. C. W Teeter, of Toulon, Ill., presumes to give a formula for my well-known hog and poultry remedy, which he asserts "yields a product very nearly, if not quite, identical with the original in cost of production as well as in composition."

That I have succeeded in preserving the formula for my remedy is well attested by the fact that Mr. Teeter's analysis differs materially from that made by the Department of Agriculture in 1880, and quoted in his communication; also by the fact that a compound purporting to be the "same as Haas,'" manufactured and sold by discharged employes, fails to accomplish corresponding results.

Your readers can judge of the inaccuracy of Mr. Teeter's formula and the analysis made at Washington when I state that my remedy contains only two of the ten ingredients mentioned, and it necessarily follows that the quantitative analyses are incorrect.

The eminent success of my remedy has emboldened unscrupulous men to place upon the market imitations of it founded upon erroneous analyses similar to those now disputed.

Would it not be more in consonance with the "eternal fitness of things" for druggists and others selling successful remedies to cease bothering their heads concerning the ingredients, and devote their time to the merchandising of drugs and remedies? The prevailing craze for formulas of well-known remedies evidences the shallowness of mind of those whose abilities enable them only to imitate, and do not permit them to create successful remedies.

As a warning to would-be imitators, I can say, without fear of contradiction, that during the ten years my remedy has been in the market there has sprung up nearly a hundred imitations and counterfeits, of which few remain, and they only to tantalize the dealer who has been misled by misrepresentation and the dalliance of greater profits to substitute them for the genuine article. The public has ceased to be an easy prey to counterfeiters of standard remedies, and the sooner the druggists realize this the better it will be for their pocket-books.

Yours truly, Jos. Haas, V. S.

Indianapolis, Ind., Dec. 6, 1886.

[Dr. Haas wields a saucy and trenchant pen, but we fear druggists will nevertheless continue to "bother their heads" about the composition of any and all secret remedies which they are called upon to sell, not necessarily with a view to "counterfeiting" or "imitating," but simply to be better able to judge of the merit or demerit of these preparations, and consequently to discarge their obvious duties to the public. It is a very low estimate of the pharmacist which reduces him to the "mere handling of drugs and medicines."—Ed. W. D.]

"MOXIE" PAYS ITS RESPECTS.

We have on several occasions referred in a somewhat uncomplimentary way to the great "Moxie Nerve Food," five million bottles of which, we are told in its latest circular, have been sold in fifteen months, curing by close calculation "228,000 drunkards," and restoring "389,000 nervous wrecks to a fair condition of health." Our references have not altogether pleased the proprietor, Mr. Thompson, and as we believe in fair play, we present the following:

(Publishers Western Druggist.)

To-day I was shown a paragraph in a periodical with the above caption, in which you hasten to inform your circle of readers of the honor I have conferred upon you by commending a certain criticism I had made in regard to an article in the American Druggist, and gave your name by mistake. I certainly was at fault; am ashamed of myself, and beg your pardon. As the high-toned associate of the American Analyst I had no right to desecrate your galaxy of glory by speaking your name. I remember a condescension on the part of the Analytical Department of the Analyst which after six weeks of scientific agony found two elements in the Moxie I did not have brains enough to discover, and its high aspirations and position in the advanced field of science overlooked two I had thought to be its most essential. If you will assist my agent at 33 N. State street to hunt up that copy of your periodical that analyzed and busted the Moxie, I will borrow the money and pay you, for I am advised that the size of your circulation renders it a very difficult matter. Then I will pilgrimage to your holy city, and gather the fragments of the ruin. Now, if I find a Chicago man that has had as much sense knocked into him as I have by as eminent a critic as yourself, I will advise you.

Sincerely, A. Thompson, M. D., Proprietor.

Manager's and Treasurer's office, 55 Central street, Boston, Mass.

Lowell, Nov. 1, 1886.

[As a decoction of oats, flavored with sassafras and wintergreen, "Moxie" is certainly harmless enough, though the modest little oat must feel considerably amused over being "discovered" in South America by a gay lieutenant, and at once set as a blazing sun in the medicinal heavens. Its eminent sponsor's defense in the above refined and scholarly production must make it the merrier.—Ed. W. D.]

CINCINNATI DRUG CLERKS ORGANIZE.

(Editor of the Western Druggist.)

I have been instructed to report to you that the drug clerks of this city have formed an association, the first meeting of which was held August 18. The objects of this association are to advance pharmaceutical education among its members by uniting the drug clerks of this city in good standing, and to promote good fellowship by interchange of knowledge (Art. II, Constitution.) All clerks having diplomas from recognized colleges of pharmacy, or holding certificates of registration as pharmacists by examination are eligible to membership (Art. III.)

The association meets on the first Friday evening of each month. At the last meeting Mr. W. Simonson furnished an exhaustive paper on "Volumetric Analysis as applied to Pharmacy," explaining the reactions and calculating the per cent. of strength and purity on the blackboard.

Mr. F. A. Mueller commenced the subject of chemical reactions, Everybody interested is invited to attend the meetings. The officers are: F. A. Mueller, President; W. Simonson, Vice-President; J. J. Buehler, Treasurer; E. H. W. Stahlhuth, Secretary, 24 Melancthon street.

E. H. W. S.

Professor (to foot of botany class)—"Mention some of the common trees." Student—"Ash, maple, elm, larch, locust, spruce, pine, horse—" (taking breath.) Professor (promptly)—"Chestnut?" Student—"All right, sir; if you've heard 'em before, I'll stop."

IOWA ITEMS.

[Editor The Western Druggist.]

Matters of greatest interest to pharmacists in Iowa just now are of a legal nature. The prohibition statute entails much additional labor on the Iowa pharmacy commission in its attempts to enforce the provisions of the pharmacy act. The pharmacy commission seems to be between two fires, the license people and the extreme prohibitionists, which is the best evidence that it is doing its duty. After making sweeping charges against liquor-selling druggists, the license people decline to furnish specific cases.

One shrewd attempt to evade the prohibition and pharmacy laws at one and the same time was recently detected by the Iowa commission: A Detroit firm with a Gallic name advertised themselves as manufacturers of "medical, pharmaceutical and chemical preparations," and endeavored to work up an extensive Iowa whiskey trade. Their "Cough Cure," of the malt whiskey order, is put up in half pint flasks and has a glaringly significant label. Extonsive sales of this cough cure will be good evidence of an illegal liquor traffic.

The proceedings against R. D. Townley, of Allerton, Wayne county, whose certificate was revoked two years ago, resulted in his conviction, the payment of $100 fine and costs and his quitting the business. The following cases have also recently been decided in favor of the commission, Geo. Allen, of Bertram, was fined for practicing pharmacy without registration. Jason Roberts and all other Osceola druggists were indicted for illegal liquor sel'ing. Roberts was fined $100, and perpetually enjoined from the practice of pharmacy; the other case is pending.

Last week an interesting episode occurred involving the jurisdiction of the commission in forfeiture cases. The evidence showed that the town of Atlantic was a terribly unhealthy place, its atmosphere enervating, or that the druggists were selling stimulants under mental reservation and apparent prevarication. During the hearing of the case the defendants demurred to the jurisdiction of the board on the ground that the statute gave them power to revoke certificates only after a druggist had been twice convicted of violation of law by the courts. The board overruled the demurrer, and held that the last Legislature had harmonized prior conflicts of sections 8 and 9 of the law; that now the Pharmacy Board had the power to revoke licenses for repeated violations of the law; that this was a discretionary power, but that under section 9 they were compelled to revoke a certificate after a druggist had been twice convicted by a court. Also that the power to revoke certificates for repeated violations carried with it the power to ascertain and determine the facts upon proper evidence. The defendants at once applied to Judge McHenry, of the District Court, for an injunction to restrain the board from further proceedings, and as an expiring kick of a saloon sympathizer the injunction was granted, and the further hearing, on motion of the board, put off until the new Judge takes his seat, who will doubtless dismiss the case, under a recent decision of the Supreme Court, which settles the point at issue. The Pharmacy Board are determined to enforce the laws against saloon druggists, and they will require a defense against an unusual und unwarrantable sale of liquors. As all purchasers must sign their names when they purchase, under oath, and as these affidavits are all preserved, purchasers will be called upon to explain.

The commission has revoked the certificates of W. E. Wolfgang, of Emmetsburg, and J. E. Hardenbrook, of Albia.

Intoxicating liquors were shipped from Rock Island and Albert Lea, by the United States Express Company, to Hampton, in this State. Action was brought against the company, who set up ignorance of the contents of the packages. The Supreme Court says it is immaterial whether or not the company knew the contents of the packages. It is their duty to know whether goods it receives are contraband or not. It can not be allowed to make itself an agent of persons who violate the laws of the State.

Altogether, Iowa is having a lively time of it—the Commission of Pharmacy especially so. SIGMA.

Dec. 10, 1886.

CHICAGO RETAIL DRUGGISTS' ASSOCIATION.—At a special meeting at the Sherman House, Dec. 10, Mr. C. H. Grube, of Robinson, was indorsed for the vacancy on the Board of Pharmacy occurring Jan. 1 by the expiration of the term of Mr. George Buck. A special committee reported that by actual purchase through a third party it had positive evidence that every wholesale drug firm in the city, with a single exception, sold goods at retail at jobbing prices. After considerable discussion the names of the jobbers so selling were ordered read. The proposed amendments to the State Pharmacy Act as approved by the State Association, were indorsed, with two additional clauses, one recommending a grade of minor certificates to be issued to clerks passing a minor examination entitling them to privileges substantially as now enjoyed by "registered assistants," and the other recommending that the duties of the Secretary of the Board be transferred to a Clerk who shall not be a Board officer. The Committee on Legislation was instructed to report a draft of amendments at a subsequent meeting, to be called as soon as the report shall be ready. The resignation of G. P. Engelhard, as Secretary, submitted because of a pressure of other duties, was accepted.

A great deal of dissatisfaction, apparently not without reason, exists among the exhibitors at the Colonial exhibition recently held in Liverpool with the manner in which the medals have been bestowed. The British and Colonial Druggist, in referring to the subject, says:

"In some quarters it is suggested that the blame rests not so much with the juries as with the Executive Council. One correspondent states that in several instances the awards are not in accordance with the recommendations of the jurors, while another asks the Exhibition Executive whether it is or is not a fact that in some cases where the juries recommended silver medals the Executive Committee overruled their recommendation and awarded gold medals. Wherever the responsibility may rest the matter calls for strict and immediate investigation. It is just possible that the allegations may be found to have no basis in fact. Bnt whether they be true or false their publication has shaken the public confidence in the bonafide character of the awards made at our great international exhibitions, and this confidence can only be restored by instituting a thorough inquiry and exposing any malpractice that may have taken place."

It has been reported that a scheme is on foot in India to petition the State to turn over several hundred criminals, annually condemned to death, to an authorized medical commission for the purposes of experimentation, primarily with the view to determine the transmissibility of cholera. An exchange states that as the subjects of the experiments, if they escape the disease, are to receive a full pardon, it is supposed they will willingly submit themselves to the proposed tests. This will make the doctors public executioners.

Societies and Colleges.

THE CALIFORNIA PHARMACEUTICAL SOCIETY AND COLLEGE OF PHARMACY held its annual meeting November 12, 1886, Mr. W. M. Searby presiding and Mr. C. Troppman acting as secretary. The report of Prof. Emlen Painter as delegate to the A. P. A. was read and approved. Mr. J. H. Dawson, chairman of the Committee on Legislation, reported progress. President Searby reported that during the past year the society and college had greatly increased its membership. Its meetings had been well attended and the interest in them had been sustained. The papers and the discussions therefrom resulting had been of great value. Pharmaceutical legislation had received a good deal of attention this year. A committee has been at work endeavoring to determine the views of pharmacists, to prepare a bill that should be heartily supported by the pharmacists of the State. The attendance at the college had been good. The greatest difficulties the faculty have lay in the deficient general education of many of the students. The trustees feel compelled, from time to time, to raise the standard at the preliminary examination. This is more difficult to accomplish than it would be were pharmacists generally more particular in selecting apprentices. Where the deficiency cannot be avoided the proprietors should insist on young men in their employ making up deficiencies before applying for admission to the college. In many cases the desire to graduate early led young men to enter college too young. If proper representation on this point were made by pharmacists the evil would soon decrease. E. W. Runyon, secretary of the board of trustees, read his report. The following were then elected officers for the ensuing year: J. H. Dawson, President; Dr. H. Behr, First Vice-President; A. Mack, Second Vice-President; H. Michaels, Treasurer; Chas. Troppman, Secretary; Trustees—H. Prien, D. Fletcher, H. Barbat, J. Argenti, F. C. Kiel, Chas. Troppman and W. M. Searby. The resignation of S. A. McDonnell was accepted. Mr. Dawson then read resolutions of regret on the death of E. A. Schreck. The following were appointed a formulary committee, to act with similar committees of societies: J. H. Dawson, W. M. Searby, J. G. Steele, V. Schmitt, San Francisco; Sam. Oberdeener, Santa Clara; F. G. Ray, Sacramento; J. Topley, Vallejo. They were instructed to prevent the recommendation of incompatible preparations. After the reading of several scientific papers by Mr. Troppman, Prof. Grazer and others, the society adjourned.

CALIFORNIA COLLEGE OF PHARMACY.—The commencement exercises of the California College of Pharmacy were held Nov. 13, 1886, in Odd Fellows' Hall. President W. M. Searby delivered the opening address. He spoke of the young man's graduation now and thirty years ago. There were then no commencement exercises and no one came to witness the honors bestowed upon a graduate. In referring to graduates of the College of Pharmacy, he maintained that it was especially creditable that their work was entirely voluntary. There is no law in California to prevent any one, however uneducated, opening a drugstore. Of late some interest has been manifested in the subject, and there is a probability that the people will compel legislation. The College of Pharmacy had been actively engaged in raising the standard of knowledge among pharmacists. The decreased proportion of incompetent pharmacists was largely due to it.

C. C. Stratton, D. D., president of the University of the Pacific, then delivered an address on "The Practical Advantages of Scientific Education." It was the only system capable of making the most of man. It taught him to make the most of his surroundings. All around there were boundless treasures to be had for the seeking. The scientist contributed to the welfare of the race.

The following gentlemen, constituting the graduating class, were then introduced by Prof. E W. Runyon to President Holden as the candidates for graduation: F. T. Bond, F. M. Boswell, F. O. Bratton, A. A. Drossel, T. H. Hughes, S. F. Hughes, E. J. Maloney, C. L. Morgan, E. E. Skinner. President Holden, in response, congratulated the gentlemen and welcomed them to their profession. The valedictory in behalf of the faculty was then delivered by Prof. Runyon, who congratulated the graduates and gave them a few words of advice as to their future life. The profession they had chosen required many years of study and investigation, and their work was not at an end now that they had acquired their diploma. It is in fact but the commencement of a life that should be one of continued labor in the chosen field. Prizes were then presented by J. H Dawson. The first prize, a gold medal, was awarded to F. O. Bratton, and the second, a set of Roscoe and of Schorlemmer's Chemistries, to E. E. Skinner.

The College Alumni Association held its annual meeting on the 14th, Vice-President Grazer in the chair. The following were elected officers for the ensuing year: President Prof. F. Grazer, '80; Vice-President, F. Arthur Beckett, '83; Treasurer, David M. Fletcher, '81; Secretary, Eugene D'Artenay, '82; Executive Committee, S. F. Hughes, '86; J. G. Munson, '84; H F. Prien, '85, and C. M. Troppman, '81. The usual annual banquet followed upon the adjournment of the Association. There were present Profs. Rising, Behr, Runyon, Searby, Wenzell and Grazer, '80; Messrs. Dawson, Ryland, P. Sauffle, G. E. Bacon, '75; H. R. Harris, '76; J. H. Barbat, '80; J. J. B. Argenti, '81; C. M. Troppman, '81; D. M. Fletcher, '81; J. Calegaris, '82; E. D'Artenay, '82; F. A. Beckett, '83; G. W. Loehr, '84; J. G. Munson, '84; Miss Barbat, '84; T. S. Moody, '84; O. F. Mayer, '85; H. F. Prien, '85; A. W. Mayer, '85; J. H. Topley, '85; S. F. Hughes, '86; T. H. Hughes, '36; F. M. Boswell, '86; F. Moloney, '86; A. E. Drossel, '86; E. E. Skinner, '86.

COURSE OF POPULAR SCIENCE LECTURES AT THE CHICAGO COLLEGE OF PHARMACY.

This course, established primarily for the benefit of the druggists of the city including students attending the college, is also free to all others who desire to attend. The lectures are not technical in their character, the aim being to inform and interest the people in the important scientific topics of the time. The college has unequaled facilities for lectures of this kind, the hall being especially constructed for the purpose of scientific lectures, being commodious, arranged in amphitheater form so that the entire audience may have a good view of the experiment tables, and provided with a good oxyhydrogen lantern and all the other physical and chemical apparatus necessary for the purposes of illustration.

Some of the lecturers are members of the college faculty, others are men of eminence from the outside Five lectures have thus far been given. The first was by Prof. E. S. Bastin on the "Resemblances between Animals and Plants." The aim of his lecture was to show that the drift of modern science is to the conclusion that these two great divisions of the living world fundamentally resemble each other. They have a common physical basis of life; there is no power exhibited by the animal, the rudiments of which are not also found in the plant; the system of life is one; and plants and animals are two great branches of a common trunk.

The second lecture was by Prof. H. D. Garrison, on the subject of "Iron." The lecturer showed how essential a factor iron is in our modern civilization, and described the way iron ores were deposited in beds in the early geologic ages, the modes of extracting it from its ores, the methods of making wrought iron and steel, the modes of testing for iron, etc. The lecture was illustrated by brilliant experiments and by lantern views.

The third lecture, by Dr. J. G. Kiernan, was on the subject of "Memory." He explained the nature of Memory; the difference between a really good memory—one accompanied by intellectual activity, that is—and a mere verbal memory, such as may be possessed by an idiot. He gave some remarkable examples of weak-minded people who could yet repeat whole pages of books whose meaning they could not understand. He accounted for the well-known instances of sudden loss of memory from disease or accident, and for its recovery by aid of an accident or shock. He showed also how the memory might be cultivated and improved. The lecture abounded in interesting illustrations and food for reflection.

The last two lectures were delivered by Dr. Henry Gradle on the subject of "The Eye, and How we See." He described the nature of light, explained the reflection, refraction and absorption of light, the mechanism of the eye, the nature of near and far-sightedness, the perception of color, the persistence of vision, the care of the eyes, etc. Dr. Gradle's lectures were clear and scholarly, and the last one was accompanied by many interesting experiments.

The next lecture in the course will be given by Dr. S. V. Clevenger, on "The Brain," and the succeeding one on the 17th of December by Prof. E. B. Stuart, on "Alcohol." No more lectures will then be given in the course till after the holidays. They will be resumed on Friday evening, Jan. 7, and will occur thereafter every Friday evening until the close of the term, which will be about March 1.

THE NATIONAL FORMULARY COMMITTEE.—The organization of this committee of the American Pharmaceutical Association was announced for a meeting called for Friday, Dec. 3, in New York. The committee consists of the five appointed by the President of the American Pharmaceutical Association at the time of the annual meeting, and of one representative from each of the State Pharmaceutical Associations. The original committee of five are: Charles Rice, S. J. Bendiner, A. Tscheppe, W. P. De Forest and P. W. Bedford. The following have been selected to represent the several State Associations: Alabama, P. C. Candidus; Arkansas, J. E. Gibson; Connecticut, C. A. Rapelye; California, E. Painter; District of Columbia, H. E. Kalusowski; Illinois, C. S. Hallberg; Iowa, T. W. Reute; Kansas, R. J. Brown; Kentucky, C. L. Diehl; Louisiana, A. K. Finlay; Massachusetts, W. W. Bartlett; Michigan, A. B. Stevens; Minnesota, W. S. Getty; Missouri, J. M. Good; Nebraska, N. A. Kuhn; New Hampshire, M. S. Woodman; New Jersey, C. B. Smith; New York, L. T. Stevens; North Carolina, E. V. Zoeller; Ohio, L. C. Hopp; Pennsylvania, C. T. George; South Carolina, G. J. Luhn; Tennessee, J. S. Robinson; Texas, E. M. Wells; Virginia, C. A. Santos; Wisconsin, F. B. Power; Quebec, W. Ahern.

THE FRIDAY EVENING LECTURES AT THE ILLINOIS COLLEGE OF PHARMACY.—The scientific evening lectures inaugurated by the new College of Pharmacy, in accordance with the announcement made in their first prospectus some months ago, have attracted highly interested audiences to their lecture hall at No. 40 Dearborn street. So far lectures have been delivered by distinguished members of the faculties of the medical schools, upon such topics as the physiology of the alimentary tract, the modes of action of medicines, on alcohol, on anæsthetics, on what can be done in surgical emergencies pending the arrival of a surgeon, etc. Physicians, pharmacists and students of the schools of medicine and allied branches having received a general invitation to attend these lectures, a considerable number avail themselves of the courtesy extended.

Friday evening, Dec. 10, a very interesting lecture was delivered at the college by Hon. Frank J. Crawford, on pharmacy laws and the legal liabilities of druggists. Students of the medical schools and the college of law were present by invitation, and Judge Crawford spoke of the Illinois law as well as of pharmacy laws in general. He regarded pharmaceutical legislation as purely the legitimate and necessary expression and application of sound public policy. Such legislation being primarily for the purpose of protecting the public against danger to health and life, the judge thought that the machinery necessary to carry the laws into effect should be provided at public expense, and that the exaction of annual fees from the druggists for the support of the pharmacy boards is inconsistent as well as unsound policy.

Several interesting cases decided in the courts of this and other countries were cited by the lecturer to illustrate the extent to which manufacturers, jobbers, and retail druggists have been held liable where suits have been brought for damages on the ground of injuries resulting from mistakes, carelessness, etc. One case was that of a druggist who had negligently sold sulphide of antimony for black oxide of manganese, the purchaser using it with potassium chlorate to make oxygen, in the belief that it was in fact what he had ordered; being injured by the explosion which took place, he sued the dealer for damages, but the court decided that the dealer was *not* liable because the sulphide of antimony itself, if it had not been mixed with potassium chlorate, could not have done any harm!

With regard to the pharmacy law of Illinois he expressed the opinion that any incongruities and defects in it would readily and willingly be corrected by the legislature in so far as the amendments proposed were for the public good.

A very interesting lecture was recently given at that college by Dr. E. Andrews, the president of the Chicago Academy of Science, on the American elephant.

SUMMER COURSES IN PHARMACY.—Complete regular courses of lectures and laboratory instruction are now announced to be given in the spring and early part of summer by three of the colleges of pharmacy in the United States; the California College of Pharmacy, at San Francisco, and the two colleges—the Chicago and the Illinois—at Chicago. These summer sessions commence in the latter part of March and the beginning of April.

Daniel R. Noyes.

Mr. D. R. Noyes the president of the National Wholesale Druggists' Association, has for nearly two decades been identified with the development of the wholesale drug trade of the Northwest. He was one of the founders of the Association, before the "Western" in its title had been superseded by the more imposing "National." The firm of which the gentleman is senior partner, has kept fully abreast of even the marvelous prosperity of St. Paul and Minneapolis, and the wondrous growth of the Northwest.

Mr. Noyes was born at Lyme, Connecticut, in 1839, and was educated in New England. In 1854 he entered the firm of Schieffelin & Co., New York, and there remained until Sumter was fired on, when he entered the army with characteristic promptness. His health having been impaired by the strain of army hardships, he was forced on his return to civil life temporarily to abandon business.

In 1868 he bought a controlling interest in the wholesale drug firm of Vawter, Pelt & Moulton, of St. Paul. A year later the firm assumed the title of Noyes Bros., and in 1872 its present designation, Noyes Bros. & Cutler. The house is indisputably at the head of the Northwestern wholesale drug trade.

DANIEL R. NOYES,

PRESIDENT OF THE NATIONAL WHOLESALE DRUGGISTS' ASSOCIATION.

In manner Mr. Noyes bears himself with the courteous dignity of a merchant of the old school of politeness. Clear headed, calm, courteous and dignified in speech, active in philanthropic work, a consistent Christian and a conscientious worker in social reforms, Mr. Noyes is an excellent exemplar of the American gentleman. His prominence in all that tends to develop the Northwest is evidenced by his being a director of the St. Paul Chamber of Commerce, a vice-president of the Jobbers' Union, a director of the Merchants' National Bank and of the Minneapolis Linseed Oil Company. Despite the labor and responsibilities incident to his active business life, his zeal and influence are also felt in marked degree in educational and philanthropic measures. To him Minnesota owes the beneficent law for the protection of children. In electing Mr. Noyes to its presidency, the N. W. D. A. has honored itself, accorded due recognition to a section justly proud of its present industrial and mercantile distinction and has paid a merited compliment to personal business worth and integrity.

THE SECOND ANNUAL LECTURE COURSE OF THE KINGS COUNTY PHARMACEUTICAL SOCIETY began November 11. The lecturers for the year are Mr. L. T. Perkins, W. P. De Forest, Dr. E. De la Vergne, Dr. R. G. Eccles, Dr. G. R. Fowler, Dr. E. R. Squibb, Prof. P. W. Hooper, Dr. L. D. Sheets, Mr. J. C. Cardwell, Mr. C. R. Paddock, Dr. J. H. Hunt, Dr. L. E. Nicot, Mr. L. F. Stevens and Mr. T. D. McElhenie. It must be obvious from the names of the lecturers that the course will be one of decided value and interest to the New York and Kings county pharmacists.

OHIO BOARD OF PHARMACY.—Oct. 11 the board held a meeting at Cleveland for examination and registration. The following received the certificate of licentiates: Alphonso Schober, G. A. Dollinger, C. F. Dieckman, W. Honecker, L. E. Hinckley, Eugene R. Selzer, Noble C. Earl and H. J. Sherwood, Jr., Cleveland; M. A. Burkhardt, Dayton; W. N. Boerstler, Peninsula; G. N. Haefele, West Richfield; C. L. Stinchcomb, Youngstown; James O. Howells, Bridgeport. Assistant Pharmacists.—Frank C. Orter, E. L. McMillan, S. H. Lederer, C. F. Buescher, H. Bruggaier, Charles Walz, E. L. Hockensmith, William Rubna, Charles Rosenzweig, B. B. Earo, Fred N. Hanrath, W. W. Staley, George L. Gehrung, H. K. Eaton, Cleveland; Arthur Peters, Shelby; W. F. Near, Norwalk; A. T. Baldwin and James Cutler, Delaware; W. W. Haver, Collinwood; C. W. Cupples, Navarre. At the special examination held by the board in Columbus on Tuesday, Nov. 23 out of a class of twenty-eight applicants sixteen were successful. Certificates of competency to register as pharmacists were awarded to Fritz Pfiffner, Delaware; W. S. Nye, Portsmouth; W. G. Holloway, Springfield; C. E. Roberts, Canton; Chas. H. Krieger, Douglass Westervelt and J. E. McKahan, Columbus; J. F. Foley, Zanesville; John J. Scribner, M. D., Mt. Vernon.

Certificates of competency to register as assistants were awarded to Bert Moore, Geo. Kemp and J. S. Blocksom, Zanesville; C. F. Miller, Shanesville; F. L. Hussey, New Vienna; H. Hoppe and Clarence H. Bryan, Columbus.

The next examination will be held in Cincinnati on Monday, Jan. 10, 1887. Candidates for examination will please notify the secretary of the board, P. H. Bruck, Columbus, at least ten days before that date.

The WESTERN DRUGGIST has already referred to the inherited tolerance for opium. In case of accidents this becomes of pharmaceutic legal importance. A child dies from marasmus infantum, the death being laid to the medicines. A dose sold to a child inheriting tolerance for opium might in such a case be cited as evidence that the pharmacist repeatedly sold large doses of drugs for children; it would go decidedly hard with him, unless he were prepared to show that there was a special reason for these large sales.

Reviews.

A PRELIMINARY DRAFT OF A NATIONAL FORMULARY OF UNOFFICINAL PREPARATIONS presented by the Committee on National Formulary at the annual meeting held at Providence, September, 1886. Reprint from the Proceedings, Am. Phar. Asso., Vol. 34.

This pamphlet, consisting of 100 pages, and bound interleaved, has been received. It represents the work of the N Y. and B. Committee, aided by the Committee on Unofficinal Formulæ from the State associations of Pennsylvania, Kentucky, Illinois, Wisconsin, and the District of Columbia. The formulæ of the N. Y. and B. have been revised by the committee and published with those from other sources. The following formulæ for a preparation, frequently characterized as a "terror," will illustrate the plan and at the same time be of interest in itself to readers:

75. ELIXIR FERRI PHOSPHATIS, QUININÆ ET STRYCHNINÆ *—Elixir of Phosphate of Iron, Quinine, and Strychnine.

I.* Phosphate of Iron (U. S. Ph. 1880) 256 gr., Hydrochlorate of Quinine 128 gr., Sulphate of Strychnine 1¼ gr., Aromatic Spirit 6 fl. oz., water 4 fl. oz., syrup 6 fl. oz., Aromatic Elixir, enough to make 16 fl. oz.

Dissolve the Sulphate of Strychnine in the Aromatic Spirit, contained in a flask, add the Hydrochlorate of Quinine, place the flask into hot water, and shake it well occasionally. Dissolve the Phosphate of Iron in four fl. oz. of hot water, in a capsule; add the syrup, and heat nearly to the boiling point. Then pour into this hot mixture, all at once, the hot solution of the alkaloids, and shake well immediately. When cold, add enough Aromatic Elixir to make sixteen fl. oz., allow to stand for twenty-four hours and filter.

Each fl. dr. contains 2 gr. of Phosphate of Iron, 1 gr. of Hydrochlorate of Quinine, and 1-100 gr. of Sulphate of Strychnine. (N. Y. and B., revised after Ill. N. F. C.)

NOTE.—The Ill. remarks to this: "With this troublesome elixir the N. Y. and B. formula yields fair results. The manipulation may be improved upon by pouring the alcoholic solution of the alkaloidal salts into the hot solution of iron, phosphate and sugar, instead of the reverse, as directed in the formulary. Mr. Conrad, in following out the directions in the formulary, did not succeed in obtaining a product free from precipitation until the process was modified as above.

"The use of quinine hydrochlorate (muriate) instead of the sulphate has been recommended, and the former salt, owing to its greater solubility, may be employed to advantage in preference to the sulphate. It is not thought that any objections could possibly attend the change from a therapeutic standpoint, while pharmaceutically a great deal would be secured favorable to this largely used elixir.

"This Committee think it would be advisable to reduce the quantity of strychnine in this elixir one-half. A tonic elixir containing 1-50 gr. of strychnine to the fl. dr., often promiscuously employed, may do considerable mischief. Four fl. drs. may be, and to our knowledge has been, taken at one dose with disagreeable results. This elixir should not contain more than 1-100 of a gr. to the fl. dr." (Ill. Phar. Asso. Com.)

The N. F. C. had decided to fix two different standards of strength for preparations containing strychnine, one—of 1-100 gr. in each fl. dr.—for those in which strychnine is purely a tonic, and another—1-50 gr. in one fl. dr.—for those which are given to produce the characteristic effects of strychnine—(such as Elixir Strychninæ Valerianatis). It is, however, doubtful whether this would be a wise plan. No attempt has been made, therefore, to carry out this plan uniformly in the present collection of formulæ.

II. Strychnine 2 gr., Quinine 64 gr., Phosphate of Iron (U. S.) 128 gr., alcohol 2 fl. oz., water, syrup, each, 3 fl. oz., Elixir of Orange (U. S.) 8 fl. oz.

Dissolve the strychnine, and afterward the quinine, in the alcohol. Dissolve the Phosphate of Iron in the water. Mix the two solutions, and add the syrup and elixir. Filter if necessary. (D. C.)

III. Solution of Phosphate of Iron 50 per cent., 510 min., Sulphate of Quinine 128 gr., Sulphate of Strychnine 2½ gr., Elixir of Orange enough to make one pint.

Proceed as in the Elixir of Phosphate of Iron, Cinchonidine and Strychnine. (No. 74, II.)

Each fl. dr. contains 2 gr. of Phosphate of Iron, 1 gr. of Sulphate of Quinine, and 1-50 gr. of Sulphate of Strychnine. (Pa.)

The work embraces 412 preparations, three or four formulæ for each being sometimes given with notes and references. The National Formulary Committee will make such additions or revisions to these as may be suggested by the various State committees, and if found to possess permanent value, will be recommended for incorporation and adoption at the next meeting of the A. P. A. in Cincinnati. The work is a valuable publication for reference, as well as for comparison of the various formulæ in use. As only a limited number of copies have been bound interleaved, it is presumed only the committee will be furnished with them until the proceedings are issued.

MANUAL OF PRACTICAL PHARMACEUTICAL ASSAYING, including details of the simplest and best methods of determining the strength of crude drugs and of galenical preparations. Designed especially for the use of the student and of the practical pharmacist. By A. B. Lyons A. M.. M D., Detroit, Mich.: D. O. Haynes & Co., 1886.

This little work presents in as brief and clear a manner as possible an account of simple processes for determining the strength of various drugs and their preparations which pharmacists frequently are deterred from employing by reason of an exaggerated idea of the difficulties encountered in the required chemical manipulations. It comprises a chapter on apparatus and reagents, general methods of extracting and assaying alkaloids, and a comparison of the different methods employed. Besides directions for the estimation of alcohol, glycerin, etc., in fluid extracts, it embraces methods for assaying preparations of the following drugs: Aconite, belladonna, stramonium, cinchona, coca, colchicum, conium, digitalis, elaterium, gelsemium, guarana, coffee, tea, hydrastis, hyoscyamus, ipecac, nux vomica, ignatia, physostigma, pilocarpus, podophyllum, and a few of the more unimportant drugs. The work will be found invaluable as a convenient handbook to students, pharmacists and manufacturers.

The official proceedings of the Ohio Pharmaceutical Association is a conspicuously creditable publication.

We acknowledge receipt of the following:

"Annual announcement Buffalo college of Pharmacy, session 1886-'7." F. P. Vanderbergh, Secretary.

"Proceedings Ninth Annual Meeting of the Kentucky Pharmaceutical Association." Vincent Davis (Louisville), Chairman Executive Committee. Edward Goebel (Louisville), Corresponding Secretary.

"Proceedings of the Sixteenth Annual Meeting of the New Jersey Pharmaceutical Association" held at Newark, May 19-20. R. H. Van Sant, Trenton, Secretary.

"Virginia Pharmaceutical Association, Proceedings, 1886." E. R. Beckwith, Petersburg, Secretary.

"Pittsburgh College of Pharmacy, Ninth Annual Session, October, 1886 to March, 1887."

"New Hampshire Pharmaceutical Association; Proceedings of the Thirteenth Annual Meeting at Manchester, September 14." C. B. Spofford, Secretary, Claremont.

"Massachusetts Pharmaceutical Association; Proceedings of Fifth Annual Meeting, Boston, June 1-3." J. W. Colcord, Secretary, Lynn. This report, complete from the stenographer, as edited by Secretary Colcord, is a weighty volume of exceptional interest.

Notes and News.

Japan uses 112 tons of potash chlorate every year.

The Kansas College of Pharmacy has 30 students.

The Bulgarian Sobranje contains four pharmacists.

Poppies grow to the height of six feet in Australia.

Poisoning by herring roes has recently been reported.

Nubian and Alexandrian senna are synonymous terms.

The New York College of Pharmacy has 186 students.

Powdered slippery elm is being used in Philadelphia as a lubricant.

The Gardener's Monthly defines a weed "as a plant out of place."

English pharmacists are being fined for selling weak lime-water.

The United States consumes 472 tons of camphor oil every year.

The first public pharmacy was erected at Bagdad in the ninth century.

The New Jersey Medical Society tried to get a pharmacy law passed in 1829.

Cloves were an article of commerce in Europe as early as the sixth century.

The California College of Pharmacy graduated a class of nine Nov. 13, 1886.

Many New Jersey physicians still manufacture their syrups, ointments, etc.

When a mushroom town in Colorado breaks up the druggist is the last to leave.

Cryptococcus Xantho genicus is Dr. Freire's name for his yellow fever microbe.

Patent medicines yield the British government nearly $1,000,000 annual revenue.

Stramonium was recently sold in New Jersey for smartweed with almost fatal results.

More deaths occur in the British Empire from carbolic acid than from any other poison.

Exhausted oil wells in Indiana and Ohio have begun to yield oil afresh since the earthquake.

The Archives of Gynaecology, Obstetrics and Pædiatrics will appear monthly after Jan. 1, 1887.

Ampelophile is the name of an anti-phylloxera compound composed of acid mercury nitrate.

Isn't this a good time to agitate for the suppression, by legislation, of poisonous patent medicines?

Prof. Schneider will deliver the lectures on botany at the Poitiers (France) School of Pharmacy during the coming session.

An applicant for "Aqua Bull." was informed by an Indiana druggist that "Aqua Bull" was a quack cough syrup of no value.

The Chemist and Druggist Diary for 1887 has made its appearance. It contains much matter of interest to the retail druggist.

Prohibition Town: Ruralist taking his first drink out of a graduate. "Confound them spatulas, I never kin drink out of them."

"Golden Gripe Syrup," an English patent medicine, recently killed a child. It is of the "Mrs. Winslow's Soothing Syrup" variety.

M. Rogé, a French leader in pharmacy, died Nov. 14, in his seventy-third year. His researches on magnesia salts are well known.

An Ohio drug clerk gave a patient castor oil in laudanum instead of in whisky. The error was detected in time to prevent any serious results.

Receipts for "Kyphi" and "Tasi," the perfumes used by the Egyptian priests and women of pleasure 3,000 years ago, have recently been printed in France.

Succi's elixir is said to contain, as its chief ingredient, the Kola nut, which is used by the Soudanese Musselmen to enable them to fast as prescribed by Mahomet.

A congress of French pharmacists was held at Lyons Oct. 2, 1886. Its labors were confined to the formulation of the Naquet bill cited in our November issue.

Spurious cubebs, consisting of a mixture of Rhamnus berries, Alpinia flowers and black pepper, immature fruits, were recently offered for sale in England.

Messrs. W. E Neil and G. A. Ostrom have purchased Barker & Hart's pharmacy, Grand Island, Mich., and will continue business under the firm name of Neil & Ostrom.

The word laudanum is ordinarily supposed to be derived from the Latin laudo "I praise." It is now claimed that it is derived from the Greek lethedanos "causing forgetfulness."

Dr. A. B. Lyons, of Detroit, is about to issue the "Pharmaceutical Era," a new light in journalism. The scholarly attainments of Dr. Lyons assure for the new journal a distinguished future.

A medical man has just been punished in France for the illegal practice of pharmacy in a commune where a pharmacy existed. The French law governing such cases went into effect April 27, 1777.

The Herbarium left by the famous Swedish naturalist, Lamark, one of Darwin's predecessors in the doctrine of evolution, now in the possession of a professor in Rostock, Germany, has been purchased by the French Government and is to be placed in the Jardin des Plants.

Eighty thousand pounds of peppermint, spearmint and tansy oils are annually shipped from St. Joseph and Cass counties, Michigan. The essential oils are a prominent feature of the agriculture of those counties.

The Buffalo College of Pharmacy students have organized a scientific society, and elected the following officers: President, John A. Moore; Vice-President, P. Hatenstreit; Secretary, J. Kreuz; Treasurer, L. O. Thompson.

The beautifully mounted specimens of "plants indigenous to Ann Arbor" presented by Prof. A. B. Stevens to the Michigan Pharmaceutical Association at its last meeting were the work of Messrs. W. P. and J. W. Doty, Tupper and Smith, of the Michigan University School of Pharmacy.

Olibanum and dragon's blood are in demand among the demi monde of Denver, Col., for incantation ceremonies.

These drugs were used by the same class among the Egyptians, Greeks and Romans in their worship of Hother, Aphrodite or Venus, as the deity chiefly adored by them was called.

Messrs. John M. Maris & Co. have decided to locate a branch store in Chicago. The firm doubtless realizes the evident fact that its Western business can be best promoted by actual residence in the mercantile center of the section. The history of nearly all houses adopting this policy has been one of remarkable success.

M. Miahle, a prominent French pharmacist, has just died. He was born at Vabre Nov. 5, 1807. His works on pharmacy were numerous and valuable. Among them may be mentioned his researches on the mercurials and on lead, his "Chemistry Applied to Physiology and Therapeutics," as well as his "Glance at the Future of Pharmacy."

An English patent (just expired) infant's food, gave the process of its manufacture, consisting in cooking wheat in a closed vessel by means of a water-bath for six or eight hours, allowing the escape of gases during the process. The wheat is then rolled, pounded and sifted, some bicarbonate of soda and sugar added, when the food is ready for use.

Judge C. C. Fuller, of Michigan, once more enunciates the principle that a physician's knowledge is his stock in trade which cannot be taken without compensation. The same principle holds good of a pharmacist who (except in the United States courts, which do not recognize this principle in any case) cannot be compelled to testify as an expert in pharmacy without compensation.

A four-year old child in Chicago was suffering from bronchitis, and was given by its mother a patent medicine labeled "Syrup of Tar and Wild Cherry." To insure a speedy cure, the mother gave two teaspoonsful instead of one-sixth of that quantity, as directed by the label for a child of that age. The "syrup" contained laudanum thirty drops to the half ounce, which killed the child.

The American oleomargarine industry has received a check. The "ghee" or melted butter used in Brahma worship has been lately discovered by the pious Hindoos to be made from fat. Prohibitory legislation is demanded by the Hindoos. Should this be refused, a revolution might follow such as opened up the Sepoy rebellion which resulted from a disregard of the same prejudice against the use of cow-fat.

A legal custom of the District of Columbia requires the winning party to a civil suit to pay for the tobacco which the jury which tried the case is supposed to use during the hearing of the case. It happens sometimes that not one of the jurors uses tobacco, yet the pound of tobacco, or its equivalent, has to be paid the foreman of the jury the instant a verdict has been given. Generally the foreman is simply handed one dollar which is considered equivalent to a pound of tobacco. Sometimes, as the jury will try several cases in a day, the bonus amounts to something valuable. The money is divided equally among the jurymen.

Oleomargarine is to be the object of more stringent regulations in France. A bill has been presented prohibiting the sale, offering for sale and exportation under the name of butter, of oleomargarine, and all mixtures of butter with oleomargarine, grease, oil or similar substances, whatever may be the proportion of butter contained therein.

The French and Italian pharmacists are protesting against the suppression of military pharmacies. Spanish pharmacists charge the decline of pharmacy in Spain to the existence of military pharmacies. The Spanish protests against military pharmacies are based on business reasons. The French and Italian protests against their suppression are based on social reasons. Military pharmacists occupy a relatively high social position.

"Swallowing Texts from the Koran" is not, as has probably been supposed, an act on a par with fire-eating or any of the other dime museum or circus feats, but consists in having a person noted for piety write a text upon a white plate with a solution of saffron for ink. The writing is covered with rose water and the sufferer must drink of it three times a day. Not a single drop must be spilled as in that case the life of the patient is despaired of.

The British and Colonial Druggist commenting on the Western Druggist item: "Dr. Chevreul combed and cut his hair... by way of beginning a second century" says: "We hope our contemporary does not mean to hint that the great French savant only performs the operations once in a hundred years." Dr. Chevreul's hair, before the beginning of his second century, certainly justified the conclusion that the operation named were of a centennial character.

A Frenchman has been going the rounds of London drugstores with two prescriptions, one calling for Vin Mariani and the other for a number of pills from a rather complicated pill-mass. With great regard for the chemist the pills are to be called for again, while the wine is required at once by the stranger, and "to be paid for with the pills."

The question whether "J. Collis Browne's widow" had the secret of chlorodyne handed down to her by her late spouse, or whether the nostrum is controlled by some one else, are questions which we leave to antiquarians to discuss, but in this connection it is refreshing to be informed "that the practice" (proprietary medicine making and vending) "originated in America," and that from this land of unfettered genius the suffering British public has imbibed the horrid nostrum idea.

The President's Message, the department reports and a large section of the popular press are demanding measures for the reduction of taxation so as to avert the threatened disaster from currency contraction by drainage into the national treasury. A good way to begin is to abolish the $25 annual extortion levied upon retail druggists. The druggists need the money; the nation does not; to the former it would bring comfort, to the latter it is but another drop in its cup of misery. Repeal the tax.

Mr. Shuttleworth, in a paper on the use of magnesia in making solutions of essential oils (Canadian Pharm. Journal, p. 51), points to the fact frequently stated in these columns that this substance aids solution largely because of saponifying the resins associated with many volatile oils. Magnesium carbonate contains somewhat over 20 per cent. of hydrate, which plays the part of an alkali and which forms saponifiable compounds with the resins associated with many volatile oils.

Aside from the magnesium hydrate the magnesium carbonate proper acts by intervention, but in this respect cannot be compared in usefulness to other substances, such as calcium phosphate, talcum, etc., because of its greater absorptive power. The use of magnesium carbonate is not only undesirable in many preparations, but it is also a great waste, since by virtue of this absorption or attraction, solutions of oils may be rendered clear, simply because the carbonate attracts and holds the undissolved particles together.

Classification of Drugs Based on the F

FROM LECTURE VI., TERM IN BOTANY AND MATERIA MEDICA, NATIONAL INSTITUTE OF PHARMACY, CHICAGO.

- NORMAL GROWTHS
  - PLANT ORGANS
    - ENTIRE PLANTS
    - ROOTS
    - STEMS
      - AERIAL
      - SUBTERRANEAN
    - LEAVES
    - TRICHOMES
  - CHORIPETALAE
    - MELIACEAE — Azedarach.
    - BURSERACEAE — Myrrha.
    - SIMARUBACEAE — Quassia.
    - RUTACEAE — Xanthoxylum, Pilocarpus, Buchu.
    - AURANTIACEAE — Aurantii Amari Cortex, Aurantii Dulcis Cortex, Limonis Cortex, Aurantii Flores.
    - GERANIACEAE — Geranium.
    - ZYGOPHYLLACEAE — Guaiaci Lignum, Guaiaci Resina.
    - LINACEAE — Linum.
    - MALVACEAE — Gossypium, Gossypii Radicis Cortex, Oleum Gossypii Seminis, Althaea.
    - GUTTIFERAE — Cambogia.
    - POLYGALACEAE — Senega.
    - VIOLACEAE — Viola Tricolor.
    - CRUCIFERAE — Sinapis Nigra, Sinapis Alba.
    - PAPAVERACEAE — Opium, Sanguinaria, Chelidonium.
    - BERBERIDACEAE — Podophyllum, Caulophyllum.
    - MENISPERMACEAE — Menispermum, Pareira, Calumba, Picrotoxinum.
    - MAGNOLIACEAE — Magnolia, Illicium.
    - RANUNCULACEAE — Hydrastis, Cimicifuga, Staphisagria, Aconitum, Pulsatilla
  - No medicinal forms.
  - CARNEOSPONGIAE — Spongia.
  - No important medicinal forms.
  - No medicinal forms.
  - HIRUDINEA — Hirudo.
  - No medicinal forms.
  - HYMENOPTERA — Cera Flava.
  - COLEOPTERA — Cantharis.
  - HEMIPTERA — Coccus.
  - CHONDROGANOIDEI — Ichthyocolla.
  - TELEOCEPHALI — Oleum Morrhuae.
  - GALLINACEAE — Ovum.
  - CETACEA — Ambra Grisea, Cetaceum.
  - RODENTIA — Castoreum.
  - UNGULATA — Pepsinum, Moschus, Fel Bovis, Lac, Saccharum Lactis.
  - CARNIVORA — Civetta.

dressing G. P. Engelhard & Co., 69 Dearborn St., Chicago. Price 25 cents; postage stamps received.

Part of the Organism Used.

FUNGI, ALGAE and HERBS.		Cerivisiae Fermentum, Fucus, Chondrus, Cetraria, Agaricus Albus, Fungus Chirurgorum, Adiantum, Pulsatilla, Chelidonium, Scoparius, Viola Tricolor, Eupatorium, Grindelia, Tanacetum, Absinthium, Calendula, Lobelia, Mentha Piperita, Mentha Viridis, Origanum, Melissa, Hedeoma, Monarda, Marrubium, Scutellaria, Chiretta, Cannabis Indica.
ROOTS		Sarsaparilla, Senega, Gentiana, Taraxacum, Cichorium, Pyrethrum, Inula, Lappa, Asclepias, Apocynum Cannabinum, and A. Androsaemifolium, Sumbul, Jalapa, Stillingia, Phytolacca, Bryonia, Belladonna, Althaea, Calumba, Rheum, Glycyrrhiza, Ipecacuanha, Gelsemium, Pareira, Krameria.
TWIGS		Dulcamara.
LEAFY TOPS		Sabina, Thuja.
RHIZOMES		Aspidiums, Zingiber, Galanga, Zedoaria, Curcuma, Dioscorea, Calamus, Dracontium, Iris, Iris Florentina, Triticum, Veratrum Viride, Polygonatum, Aletris, Cypripedium, Convallaria, Sanguinaria, Geranium, Podophyllum, Valeriana, Arnicae Radix, Serpentaria, Spigelia, Hydrastis, Caulophyllum, Cimicifuga, Asarum, Leptandra, Menispermum, Carex Arenaria.
CORMS		Arum, Colchicum.
TUBERS		Aconitum, Salep.
BULBS		Allium, Scilla.
LEAVES AND LEAFLETS		Rosmarinus, Pilocarpus, Eucalyptus, Oleander, Uva-Ursi, Senna, Erythroxylon, Belladonnae Folia, Tabacum, Stramonii Folia, Hyoscyami Folia, Digitalis, Matico, Salvia, Hamamelis, Castanea, Chimaphila, Gaultheria, Buchu, Rhus Toxicodendron.
HAIRS AND GLANDS		Gossypium, Kamala, Lupulinum.

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ANIMAL.	SUB-KINGDOM	PROTOZOA	
		PORIFERA	
		COELENTERATA	
		ECHINODERMATA	
		VERMES	
		MOLLUSCA	
		ARTHROPODA	INSECTA — HEXAPOD
		VERTEBRATA	PISCES — GANOIDE, TELEOST
			AVES
			MAMMALIA